

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549**

FORM 10-Q

(Mark One)

QUARTERLY REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the quarterly period ended June 30, 2024

OR

TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934

For the transition period from _____ to _____

Commission File Number: 001-39871

SAB BIOTHERAPEUTICS, INC.

(Exact Name of Registrant as Specified in its Charter)

Delaware

(State or other jurisdiction of
incorporation or organization)

777 W 41st St, Suite 401

Miami Beach, Florida

(Address of principal executive offices)

85-3899721

(I.R.S. Employer
Identification No.)

33140

(Zip Code)

Registrant's telephone number, including area code: (605) 679-6980

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common stock, \$0.0001 par value per share	SABS	The Nasdaq Stock Market LLC
Warrants, each exercisable for one share of Common Stock	SABSW	The Nasdaq Stock Market LLC

Indicate by check mark whether the registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes No

Indicate by check mark whether the registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§232.405 of this chapter) during the preceding 12 months (or for such shorter period that the registrant was required to submit such files). Yes No

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	<input type="checkbox"/>	Accelerated filer	<input type="checkbox"/>
Non-accelerated filer	<input checked="" type="checkbox"/>	Smaller reporting company	<input checked="" type="checkbox"/>
		Emerging growth company	<input checked="" type="checkbox"/>

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act.

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes No

As of August 2, 2024, the registrant had 9,229,274 shares of common stock, \$0.0001 par value per share, outstanding.

Table of Contents

	<u>Page</u>	
PART I.	<u>FINANCIAL INFORMATION</u>	2
Item 1.	<u>Condensed Consolidated Financial Statements (Unaudited)</u>	2
	<u>Condensed Consolidated Balance Sheets</u>	2
	<u>Condensed Consolidated Statements of Operations and Comprehensive Loss</u>	3
	<u>Condensed Consolidated Statements of Changes In Stockholders' Equity</u>	4
	<u>Condensed Consolidated Statements of Cash Flows</u>	5
	<u>Notes to Unaudited Condensed Consolidated Financial Statements</u>	6
Item 2.	<u>Management's Discussion and Analysis of Financial Condition and Results of Operations</u>	26
Item 3.	<u>Quantitative and Qualitative Disclosures About Market Risk</u>	42
Item 4.	<u>Controls and Procedures</u>	42
PART II.	<u>OTHER INFORMATION</u>	44
Item 1.	<u>Legal Proceedings</u>	44
Item 1A.	<u>Risk Factors</u>	44
Item 2.	<u>Unregistered Sales of Equity Securities and Use of Proceeds</u>	44
Item 3.	<u>Defaults Upon Senior Securities</u>	44
Item 4.	<u>Mine Safety Disclosures</u>	44
Item 5.	<u>Other Information</u>	44
Item 6.	<u>Exhibits</u>	45
	<u>Signatures</u>	46

PART I—FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements (Unaudited).

SAB Biotherapeutics, Inc. and Subsidiaries
Condensed Consolidated Balance Sheets

	June 30, 2024	December 31, 2023
	(Unaudited)	
Assets		
Current assets		
Cash and cash equivalents	\$ 17,242,442	\$ 56,566,066
Short-term investments	20,083,621	—
Accrued interest receivable	224,924	—
Prepaid expenses and other current assets	2,029,504	2,340,797
Total current assets	39,580,491	58,906,863
Deferred issuance cost	236,105	—
Long-term prepaid insurance	285,613	350,230
Operating lease right-of-use assets	1,241,872	1,277,982
Financing lease right-of-use assets	3,626,247	3,669,659
Property, plant and equipment, net	16,921,495	19,736,519
Total assets	\$ 61,891,823	\$ 83,941,253
Liabilities and Stockholders' Equity		
Current liabilities		
Accounts payable	\$ 1,171,266	\$ 945,927
Notes payable	615,818	1,050,849
Operating lease liabilities, current portion	458,716	669,946
Finance lease liabilities, current portion	137,182	132,004
Deferred grant income	114,698	1,322,410
Accrued expenses and other current liabilities	5,054,335	6,692,181
Total current liabilities	7,552,015	10,813,317
Operating lease liabilities, noncurrent	782,435	635,777
Finance lease liabilities, noncurrent	3,348,572	3,418,483
Warrant liabilities	4,089,043	11,774,235
Total liabilities	15,772,065	26,641,812
Commitments and contingencies (Note 18)		
Stockholders' equity		
Preferred stock; \$0.0001 par value; 10,000,000 shares authorized, 42,236 shares issued and outstanding at June 30, 2024 and December 31, 2023	5	5
Common stock; \$0.0001 par value; 800,000,000 shares authorized at June 30, 2024 and December 31, 2023; 9,283,939 and 9,280,159 shares issued, respectively, and 9,229,274 and 9,225,494 outstanding at June 30, 2024 and December 31, 2023, respectively	929	929
Treasury stock, at cost; 54,665 shares held at June 30, 2024 and December 31, 2023	(5,521,246)	(5,521,246)
Additional paid-in capital	154,096,164	152,856,874
Accumulated other comprehensive income (loss)	(31,353)	26,420
Accumulated deficit	(102,424,741)	(90,063,541)
Total stockholders' equity	46,119,758	57,299,441
Total liabilities and stockholders' equity	\$ 61,891,823	\$ 83,941,253

**The condensed consolidated balance sheets' common stock share amounts have been retroactively adjusted to account for the Company's 1:10 Reverse Stock Split, effective January 5, 2024.*

See accompanying notes to the condensed consolidated financial statements

SAB Biotherapeutics, Inc. and Subsidiaries
Condensed Consolidated Statements of Operations and Comprehensive Loss
(Unaudited)

	Three Months Ended June 30,		For The Six Months Ended June 30,	
	2024	2023	2024	2023
Revenue				
Grant revenue	\$ 263,137	\$ 85,518	\$ 1,207,712	\$ 666,619
Total revenue	<u>263,137</u>	<u>85,518</u>	<u>1,207,712</u>	<u>666,619</u>
Operating expenses				
Research and development	6,822,198	3,662,130	14,769,253	8,197,851
General and administrative	3,642,637	2,900,006	8,030,773	6,347,395
Total operating expenses	<u>10,464,835</u>	<u>6,562,136</u>	<u>22,800,026</u>	<u>14,545,246</u>
Loss from operations	(10,201,698)	(6,476,618)	(21,592,314)	(13,878,627)
Other income (expense)				
Changes in fair value of warrant liabilities	2,216,973	(357,516)	7,685,192	(274,930)
Interest expense	(93,119)	(75,320)	(169,490)	(167,705)
Interest income	374,557	28,568	872,450	86,556
Other income	367,832	—	842,962	—
Total other income (expense)	<u>2,866,243</u>	<u>(404,268)</u>	<u>9,231,114</u>	<u>(356,079)</u>
Loss before income taxes	<u>(7,335,455)</u>	<u>(6,880,886)</u>	<u>(12,361,200)</u>	<u>(14,234,706)</u>
Net loss	<u>\$ (7,335,455)</u>	<u>\$ (6,880,886)</u>	<u>\$ (12,361,200)</u>	<u>\$ (14,234,706)</u>
Other comprehensive loss:				
Unrealized gain (loss), change in fair value of available-for-sale securities, net of tax	\$ 12,463	\$ —	\$ (43,598)	\$ —
Foreign currency translation	\$ 19,632	\$ —	\$ (14,175)	\$ —
Total comprehensive loss	<u>\$ (7,303,360)</u>	<u>\$ (6,880,886)</u>	<u>\$ (12,418,973)</u>	<u>\$ (14,234,706)</u>
Loss per common share attributable to the Company's shareholders				
Basic and diluted loss per common share	\$ (0.79)	\$ (1.36)	\$ (1.34)	\$ (2.82)
Weighted-average common shares outstanding – basic and diluted	9,255,025	5,042,126	9,248,503	5,040,741

**The condensed consolidated balance sheets' common stock share amounts have been retroactively adjusted to account for the Company's 1:10 Reverse Stock Split, effective January 5, 2024.*

See accompanying notes to the condensed consolidated financial statements

SAB Biotherapeutics, Inc. and Subsidiaries
Condensed Consolidated Statements of Changes In Stockholders' Equity
(Unaudited)

	Common stock		Preferred Stock		Additional Paid-In Capital	Treasury Stock		Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
	Shares	Amount	Shares	Amount		Shares	Amount			
Balance at December 31, 2022	5,093,927	\$ 510	—	\$ —	\$ 84,448,633	(54,665)	(5,521,246)	\$ (47,869,755)	\$ —	\$ 31,058,142
Issuance of common stock for exercise of stock options	350	—	—	—	1,890	—	—	—	—	1,890
Professional fees settled with warrants	—	—	—	—	93,530	—	—	—	—	93,530
Stock-based compensation	—	—	—	—	602,780	—	—	—	—	602,780
Net loss	—	—	—	—	—	—	—	(7,353,820)	—	(7,353,820)
Balance at March 31, 2023	5,094,277	510	—	—	85,146,833	(54,665)	(5,521,246)	(55,223,575)	—	24,402,522
Issuance of common stock for settlement of accrued liabilities and professional fees	191,689	19	—	—	1,549,982	—	—	—	—	1,550,001
Stock-based compensation	—	—	—	—	644,815	—	—	—	—	644,815
Net loss	—	—	—	—	—	—	—	(6,880,886)	—	(6,880,886)
Balance at June 30, 2023	5,285,966	\$ 529	—	\$ —	\$ 87,341,630	(54,665)	(5,521,246)	\$ (62,104,461)	\$ —	\$ 19,716,452
Balance at December 31, 2023	9,280,159	929	42,236	5	152,856,874	(54,665)	(5,521,246)	(90,063,541)	26,420	57,299,441
Stock-based compensation	—	—	—	—	617,445	—	—	—	—	617,445
Issuance of common stock for exercise of stock options	3,780	—	—	—	20,412	—	—	—	—	20,412
Net loss	—	—	—	—	—	—	—	(5,025,745)	—	(5,025,745)
Foreign currency translation	—	—	—	—	—	—	—	—	(33,807)	(33,807)
Unrealized gain (loss), change in fair value of available-for-sale securities	—	—	—	—	—	—	—	—	(56,061)	(56,061)
Balance at March 31, 2024	9,283,939	929	42,236	5	153,494,731	(54,665)	(5,521,246)	(95,089,286)	(63,448)	52,821,685
Stock-based compensation	—	—	—	—	601,433	—	—	—	—	601,433
Net loss	—	—	—	—	—	—	—	(7,335,455)	—	(7,335,455)
Foreign currency translation	—	—	—	—	—	—	—	—	19,632	19,632
Unrealized gain (loss), change in fair value of available-for-sale securities	—	—	—	—	—	—	—	—	12,463	12,463
Balance at June 30, 2024	9,283,939	\$ 929	42,236	\$ 5	\$ 154,096,164	(54,665)	(5,521,246)	(102,424,741)	\$ (31,353)	\$ 46,119,758

*The condensed consolidated balance sheets' common stock share amounts have been retroactively adjusted to account for the Company's 1:10 Reverse Stock Split, effective January 5, 2024.

See accompanying notes to the condensed consolidated financial statements.

SAB Biotherapeutics, Inc. and Subsidiaries
Condensed Consolidated Statements of Cash Flows
(Unaudited)

	Six Months Ended June 30,	
	2024	2023
Cash flows from operating activities:		
Net loss	\$ (12,361,200)	\$ (14,234,706)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	2,996,610	1,767,226
Amortization of finance right-of-use assets	43,412	48,209
Stock-based compensation expense	1,218,878	1,247,595
Changes in fair value of warrant liabilities	(7,685,192)	274,930
Accretion of discounts on short-term investments	(169,393)	—
Professional fees settled with equity instruments	—	143,530
Changes in operating assets and liabilities		
Accrued interest receivable	(224,924)	—
Accounts receivable	—	5,194,842
Prepaid expenses and other current assets	398,389	657,689
Operating lease right-of-use assets and liabilities, net	(28,462)	266,755
Accounts payable	198,320	(2,275,271)
Deferred grant income	(1,207,712)	2,894,781
Accrued expense and other current liabilities	(1,646,516)	(2,490,453)
Net cash used in operating activities	(18,467,790)	(6,504,873)
Cash flows from investing activities:		
Purchases of equipment	(181,585)	(43,984)
Purchases of investment securities	(31,335,142)	—
Sales and maturities of investments	11,376,337	—
Net cash used in investing activities	(20,140,390)	(43,984)
Cash flows from financing activities:		
Payment of deferred issuance costs	(236,105)	—
Payments of notes payable	(435,031)	(660,772)
Principal payments on finance leases	(64,733)	(64,696)
Proceeds from exercise of stock options	20,412	1,890
Net cash used in financing activities	(715,457)	(723,578)
Effect of exchange rate changes on cash and cash equivalents	13	—
Net decrease in cash and cash equivalents	(39,323,624)	(7,272,435)
Cash and cash equivalents		
Beginning of period	56,566,066	15,046,894
End of period	<u>\$ 17,242,442</u>	<u>\$ 7,774,459</u>
Supplemental cash flow information:		
Cash paid for interest	\$ 149,102	\$ 120,022
Supplemental information on non-cash investing and finance activities:		
Settlement of accrued liabilities through the issuance of common stock	\$ —	\$ 1,500,000
Right-of-use assets obtained in exchange for operating lease liabilities	\$ 368,425	\$ —

See accompanying notes to the condensed consolidated financial statements.

SAB BIOTHERAPEUTICS, INC. AND SUBSIDIARIES

NOTES TO CONDENSED CONSOLIDATED FINANCIAL STATEMENTS (UNAUDITED)

(1) Nature of Business

SAB Biotherapeutics, Inc., a Delaware corporation (“SAB” or “SAB Biotherapeutics”, and together with its subsidiaries, the “Company”), is a clinical-stage biopharmaceutical company focused on the development of human polyclonal immunotherapeutic antibodies, or human immunoglobulins (“hIgG”), to address immune system disorders and infectious diseases. The Company’s antibodies are both target-specific and polyclonal, meaning they are comprised of multiple hIgGs and can bind to multiple sites on specific immunogens, making them ideally suited to address the complexities associated with many immune-mediated disorders. The Company’s lead candidate, SAB-142 is a human anti-thymocyte globulin (“ATG”) focused on preventing or delaying the progression of type 1 diabetes (“T1D”).

Australian Research and Development Tax Credit

In June 2023, the Company formed a new subsidiary in Australia, SAB BIO PTY LTD, a proprietary limited company (“SAB Australia”), primarily to conduct preclinical and clinical activities for product candidates. SAB Australia’s research and development activities qualify for the Australian government’s tax credit program, which provides a 43.5% credit for qualifying research and development expenses. The Company recently initiated a Phase 1 trial of SAB-142 to establish its safety and pharmacokinetic profiles in human subjects.

Liquidity

The accompanying unaudited condensed consolidated financial statements have been prepared assuming the Company will continue as a going concern, which contemplates continuity of operations, realization of assets and the satisfaction of liabilities and commitments in the normal course of business. The Company has experienced net losses, negative cash flows from operations and, as of June 30, 2024, had an accumulated deficit of \$102.4 million. The Company anticipates that it will continue to generate losses for the foreseeable future and expects the losses to increase as the Company continues the development of, or seeks regulatory approvals for product candidates, and begins commercialization of products. As a result, the Company will require additional capital to fund operations in order to support long-term plans.

The Company will need to raise additional capital to fund its operations, to continue to execute its strategy and to continue as a going concern. In the future, the Company may seek additional funding through a combination of equity or debt financings, or other third-party financing, collaborative or other funding arrangements. Should the Company seek additional financing from outside sources, the Company may not be able to raise such financing on terms acceptable to the Company or at all. If the Company is unable to raise additional capital when required or on acceptable terms, the Company may be required to scale back or discontinue the advancement of product candidates, reduce headcount, liquidate assets, file for bankruptcy, reorganize, merge with another entity, or cease operations.

The Company currently expects that its cash and cash equivalents of \$17.2 million and short-term investments of \$20.0 million as of June 30, 2024 will not be sufficient to fund its operating expenses and capital requirements for more than 12 months from the date the financial statements are issued. These conditions raise substantial doubt about the Company’s ability to continue as a going concern.

(2) Summary of Significant Accounting Policies

A summary of the significant accounting policies applied in preparation of the accompanying condensed consolidated financial statements is set forth below.

Basis of presentation

The financial statements have been prepared in conformity with U.S. Generally Accepted Accounting Principles (“GAAP”) and include all adjustments necessary for the fair presentation of the Company’s financial position for the periods presented.

Emerging growth company status

The Company is an “emerging growth company,” as defined in Section 2(a) of the Securities Act of 1933, as amended (the “Securities Act”), as modified by the Jumpstart our Business Startups Act of 2012, (the “JOBS Act”), and it may take advantage of certain exemptions from various reporting requirements that are applicable to other public companies that are not emerging growth companies including, but not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the

Sarbanes-Oxley Act, reduced disclosure obligations regarding executive compensation in its periodic reports and proxy statements, and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

Further, Section 102(b)(1) of the JOBS Act exempts emerging growth companies from being required to comply with new or revised financial accounting standards until private companies (that is, those that have not had a Securities Act registration statement declared effective or do not have a class of securities registered under the Securities Exchange Act of 1934, as amended (the “Exchange Act”) are required to comply with the new or revised financial accounting standards. The JOBS Act provides that a company can elect to opt out of the extended transition period and comply with the requirements that apply to non-emerging growth companies but any such election to opt out is irrevocable. The Company has elected not to opt out of such extended transition period which means that when a standard is issued or revised and it has different application dates for public or private companies, the Company, as an emerging growth company, can adopt the new or revised standard at the time private companies adopt the new or revised standard. This may make comparison of the Company’s financial statements with another public company which is neither an emerging growth company nor an emerging growth company which has opted out of using the extended transition period difficult or impossible because of the potential differences in accounting standards used.

Principles of consolidation

The accompanying condensed consolidated financial statements include the results of the Company and its wholly owned subsidiaries, SAB Sciences, Inc., SAB Capra, LLC, Aurochs, LLC, and SAB Australia. Intercompany balances and transactions have been eliminated in consolidation.

Significant risks and uncertainties

The Company’s operations are subject to a number of factors that can affect its operating results and financial condition. Such factors include, but are not limited to, the results of research and development efforts, clinical trial activities of the Company’s product candidates, the Company’s ability to obtain regulatory approval to market its product candidates, competition from products manufactured and sold or being developed by other companies, and the Company’s ability to raise capital.

The Company currently has no commercially approved products and there can be no assurance that the Company’s research and development will be successfully commercialized. Developing and commercializing a product requires significant time and capital and is subject to regulatory review and approval as well as competition from other biotechnology and pharmaceutical companies. The Company operates in an environment of rapid change and is dependent upon the continued services of its employees and obtaining and protecting intellectual property.

Use of estimates

The preparation of financial statements in conformity with U.S. GAAP requires management to make estimates and assumptions that affect the reported amounts of assets, liabilities, revenue and expenses and the disclosure of contingent assets and liabilities in the financial statements. The Company has used significant estimates in its determination of stock-based compensation assumptions, determination of the fair value of the Private Placement Warrant liabilities, determination of the incremental borrowing rate (“IBR”) used in the calculation of the Company’s right of use assets and lease liabilities, estimation of clinical and other accruals and the valuation allowance on deferred tax assets. Actual amounts realized may differ from these estimates.

Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The following fair value hierarchy classifies the inputs to valuation techniques that would be used to measure fair value into one of three levels:

Level 1: Unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2: Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.

Level 3: Unobservable inputs that reflect the reporting entity’s own assumptions.

Certain of the Company’s financial instruments are not measured at fair value on a recurring basis but are recorded at amounts that approximate their fair value due to the short-term nature of their maturities, such as cash and cash equivalents, accrued interest receivable, accounts payable, notes payable, accrued expenses, and other current liabilities.

The Company accounts for warrants to purchase its common stock pursuant to Accounting Standards Codification (“ASC”) Topic 470, *Debt* (“ASC 470”), and ASC Topic 480, *Distinguishing Liabilities from Equity* (“ASC 480”), and classifies warrants for common stock as liabilities or equity. The warrants classified as liabilities are reported at their estimated fair value (see Note 13, *Fair Value Measurements*) and any changes in fair value are reflected in other income and expense. The warrants classified as equity are reported at their estimated relative fair value with no subsequent remeasurement. The Company’s outstanding warrants are discussed in more detail in Note 12, *Warrants*.

Deferred Issuance Costs

The Company capitalizes certain legal, professional accounting and other third-party fees that are directly associated with in-process equity financings as deferred issuance costs until such financings are consummated. After consummation of the equity financing, these costs are recorded in shareholders’ equity as a reduction of additional paid-in capital generated as a result of the issuance.

As of June 30, 2024, the Company had \$236 thousand in deferred issuance costs related to the Company’s sales agreement with Cantor Fitzgerald & Co. The sales agreement is discussed further in Note 10, *Stockholders’ Equity*. The Company had no deferred issuance costs as of December 31, 2023.

Cash, cash equivalents, and restricted cash

Cash and cash equivalents are comprised of cash and highly liquid investments with original maturities of 90 days or less at the date of purchase. Cash equivalents consist primarily of exchange-traded money market funds.

The Company is exposed to credit risk in the event of default by the financial institutions or the issuers of these investments to the extent the amounts on deposit or invested are in excess of amounts that are insured.

Short-term investments

The Company accounts for short-term investments in accordance with Accounting Standard Codification (ASC) Topic 320, *Investments - Debt and Equity Securities*. Management determines the appropriate classification of its investments at the time of purchase and reevaluates such determinations at each reporting period.

At June 30, 2024, the Company’s short-term investments consisted of U.S. treasury securities with original maturity exceeding 90 days and investments in exchange traded mutual funds. The Company classifies these securities as both current and non-current depending on their time to maturity. The Company considers all of its securities for which there is a determinable fair market value, and there are no restrictions on the Company’s ability to sell within the next twelve months, as available-for-sale securities.

The Company recognizes the change in fair value of available-for-sale equity securities within other income in the condensed consolidated statement of operations and comprehensive loss, and available-for-sale debt securities are measured at fair value with unrealized gains and losses reported in accumulated other comprehensive income (loss) in the condensed consolidated statement of operations and comprehensive loss.

The Company reviews its investments at each reporting date to identify and evaluate whether a decline in fair value below the amortized cost basis of available-for-sale debt securities is due to credit-related factors and determines if such unrealized losses are the result of credit losses that require impairment. Factors considered in determining whether an unrealized loss is the result of a credit loss or other factors include the extent to which the fair value is less than the cost basis, any changes to the rating of the security by a rating agency, the financial condition and near-term prospects of the issuer, any historical failure of the issuer to make scheduled interest or principal payments, any adverse legal or regulatory events affecting the issuer or issuer’s industry, any significant deterioration in economic condition and the Company’s intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value.

The Company did not recognize any credit losses on its short-term investments during the three and six months ended June 30, 2024 and 2023.

Concentration of credit risk

The Company maintains its cash and cash equivalent balances in the form of business checking accounts and money market accounts, the balances of which, at times, may exceed federally insured limits. Although the Company currently believes that the financial institutions with whom it does business will be able to fulfill their commitments to the Company, there is no assurance that those institutions will be able to continue to do so. The Company has not experienced any credit losses associated with its balances in such accounts for the three and six months ended June 30, 2024 and 2023.

Lease liabilities and right-of-use assets

The Company is party to certain contractual arrangements for equipment, lab space, and an animal facility, which meet the definition of leases under Financial Accounting Standards Board (“FASB”) ASC Topic 842, *Leases* (“ASC 842”). In accordance with ASC 842, the Company recorded right-of-use assets and related lease liabilities for the present value of the lease payments over the lease terms. The Company’s IBR was used in the calculation of its right-of-use assets and lease liabilities.

The Company elected not to apply the recognition requirements of ASC 842 to short-term leases, which are deemed to be leases with a lease term of twelve months or less. Instead, the Company recognized lease payments in the Condensed Consolidated Statements of Operations on a straight-line basis over the lease term and variable payments in the period in which the obligation for these payments was incurred. The Company elected this policy for all classes of underlying assets.

Research and development expenses

Expenses incurred in connection with research and development activities are expensed as incurred. These include licensing fees to use certain technology in the Company’s research and development projects, fees paid to consultants and various entities that perform certain research and testing on behalf of the Company, and expenses related to animal care, research-use equipment depreciation, salaries, benefits, and stock-based compensation granted to employees in research and development functions.

During the three and six months ended June 30, 2024 and 2023, the Company had contracts with multiple contract research organizations (“CRO”) to complete studies as part of research grant agreements. These costs include upfront, milestone and monthly expenses as well as reimbursement for pass through costs. All research and development costs are expensed as incurred except when the Company is accounting for nonrefundable advance payments for goods or services to be used in future research and development activities. In these cases, these payments are capitalized at the time of payment and expensed in the period the research and development activity is performed. As actual costs become known, the Company will adjust the accrual; such changes in estimate may be a material change in the Company’s clinical study accrual, which could also materially affect reported results of operations. For the three and six months ended June 30, 2024 and 2023, there were no material adjustments to the Company’s prior period estimates of accrued expenses for clinical trials.

Property, Plant and Equipment

The Company records property, plant, and equipment at cost less depreciation and amortization. Depreciation is calculated using straight-line methods over the following estimated useful lives:

Animal facility equipment	7 years
Laboratory equipment	7 years
Leasehold improvements	Shorter of asset life or lease term
Office furniture and equipment	5 years
Vehicles	5 years

Repairs and maintenance expenses are expensed as incurred.

Impairment of long-lived assets

The Company reviews the recoverability of long-lived assets, including the related useful lives, whenever events or changes in circumstances indicate that the carrying amount of a long-lived asset may not be recoverable. If necessary, the Company compares the estimated undiscounted future net cash flows to the related asset’s carrying value to determine whether there has been an impairment. If an asset is considered impaired, the asset is written down to fair value, which is based either on discounted cash flows or appraised values in the period the impairment becomes known. The Company believes that long-lived assets are recoverable, and no impairment was deemed necessary, during the three and six months ended June 30, 2024 and 2023.

Stock-based compensation

FASB ASC Topic 718, *Compensation—Stock Compensation*, prescribes accounting and reporting standards for all share-based payment transactions in which employee and non-employee services are acquired. The Company recognizes compensation cost relating to stock-based payment transactions using a fair-value measurement method, which requires all stock-based payments to employees, directors, and non-employee consultants, including grants of stock options, to be recognized in operating results as compensation expense based on fair value over the requisite service period of the awards. The Company determines the fair value of common stock based on the closing market price at closing on the date of the grant.

In determining the fair value of stock-based awards, the Company utilizes the Black-Scholes option-pricing model, which uses both historical and current market data to estimate fair value. The Black-Scholes option-pricing model incorporates various assumptions, such as the value of the underlying common stock, the risk-free interest rate, expected volatility, expected dividend yield, and expected life of the options. For awards with performance-based vesting criteria, the Company estimates the probability of achievement of the performance criteria and recognizes compensation expense related to those awards expected to vest. No awards may have a term in excess of ten years. Forfeitures are recorded when they occur. Stock-based compensation expense is classified in the condensed consolidated statements of operations based on the function to which the related services are provided. The Company recognizes stock-based compensation expense over the vesting period.

Income taxes

Deferred income taxes reflect future tax effects of temporary differences between the tax and financial reporting basis of the Company's assets and liabilities measured using enacted tax laws and statutory tax rates applicable to the periods when the temporary differences will affect taxable income. When necessary, deferred tax assets are reduced by a valuation allowance, to reflect realizable value, and all deferred tax balances are reported as long-term on the condensed consolidated balance sheet. Accruals are maintained for uncertain tax positions, as necessary.

The Company uses a recognition threshold and measurement attribute for the financial statement recognition and measurement of a tax position taken, or expected to be taken, in a tax return. The Company has elected to treat interest and penalties related to income taxes, to the extent they arise, as a component of income taxes.

Revenue recognition

The Company's revenue is primarily generated through grants from government and other (non-government) organizations.

Grant revenue is recognized during the period that the research and development services occur, as qualifying expenses are incurred, or conditions of the grants are met. Deferred grant income represents grant proceeds received by the Company prior to the period in which the research and development services occur, as qualifying expenses are incurred, or conditions of the grants are met. The Company concluded that payments received under these grants represent conditional, nonreciprocal contributions, as described in ASC 958, *Not-for-Profit Entities*, and that the grants are not within the scope of ASC 606, *Revenue from Contracts with Customers*, as the organizations providing the grants do not meet the definition of a customer. Expenses for grants are tracked by using a project code specific to the grant, and the employees also track hours worked by using the project code.

Foreign Currency Translations and Transactions

Assets and liabilities of the Company's foreign subsidiary are translated at the year-end exchange rate. Operating results of the Company's foreign subsidiary are translated at average exchange rates during the period. Translation adjustments have no effect on net loss and are included in "Accumulated other comprehensive income (loss), net" in the accompanying Condensed Consolidated Balance Sheets.

Comprehensive income (loss)

Comprehensive income (loss) includes net loss as well as other changes in stockholders' equity that result from transactions and economic events other than those with stockholders. The components of comprehensive income (loss) for the three and six months ended June 30, 2024 consist of net loss, foreign currency translation adjustments from its subsidiaries not using the U.S. dollar as their functional currency, and unrealized gains and losses on available-for-sale debt securities.

The Company had no items of comprehensive loss other than its net loss for the three and six months ended June 30, 2023.

Litigation

From time to time, the Company is involved in legal proceedings, investigations and claims generally incidental to its normal business activities. In accordance with U.S. GAAP, the Company accrues for loss contingencies when it is probable that a liability has been incurred and the amount of the loss can be reasonably estimated. Legal costs in connection with loss contingencies are expensed as incurred.

Earnings per share

In accordance with ASC 260, *Earnings per Share* ("ASC 260"), basic net income (loss) per share attributable to common stockholders is computed by dividing net income (loss) attributable to common stockholders by the weighted-average number of common stock

outstanding during the period. Diluted net income (loss) per share attributable to common stockholders is computed by dividing the diluted net income (loss) attributable to common stockholders by the weighted-average number of common stock outstanding for the period including potential dilutive common shares such as stock options.

Segment reporting

In accordance with ASC 280, *Segment Reporting*, the Company's business activities are organized into one reportable segment, as only the Company's operating results in their entirety are regularly reviewed by the Company's chief operating decision maker to make decisions about resources to be allocated and to assess performance.

Australian Research and Development Tax Credit

The Company recognizes other income from Australian research and development incentives when there is reasonable assurance that the income will be received, the relevant expenditure has been incurred, and the consideration can be reliably measured. The research and development incentive is one of the key elements of the Australian Government's support for Australia's innovation system and is supported by legislative law primarily in the form of the Australian Income Tax Assessment Act 1997, as long as eligibility criteria are met. Under the program, a percentage of eligible research and development expenses incurred by the Company through its subsidiary in Australia are reimbursed.

Management has assessed the Company's research and development activities and expenditures to determine which activities and expenditures are likely to be eligible under the research and development incentive regime described above. At each period end, management estimates the refundable tax offset available to the Company based on available information at the time and it is included in other income in the condensed consolidated statements of operations.

Retroactive Adjustments for Common Stock Reverse Split

On January 5, 2024, the Company completed a 1-for-10 reverse stock split of the Company's Common Stock (the "Reverse Stock Split"). As a result of the Reverse Stock Split, every ten of the Company's issued shares of Common Stock were automatically combined into one issued share of Common Stock, without any change to the par value per share. All share and per share numbers in this Form 10-Q have been adjusted to reflect the Reverse Stock Split.

(3) New accounting standards

Recently Issued Accounting Standards

No recently issued accounting standards that have an impact on the Company's condensed consolidated financial statements as of June 30, 2024 and December 31, 2023.

(4) Revenue

During the three and six months ended June 30, 2024 and 2023, the Company recognized revenue from the following grants:

Government grants

Total revenue recognized from government grants was approximately \$263 thousand and \$1.2 million for the three and six months ended June 30, 2024, respectively, and \$86 thousand and \$667 thousand for the three and six months ended June 30, 2023, respectively.

National Institute of Health - National Institute of Allergy and Infectious Disease ("NIH-NIAID") (Federal Award #1R41AI131823-02) – this grant was for approximately \$1.5 million and had an original term of April 2019 through March 2021. The grant was subsequently amended to extend the end date to March 2023. No grant income was recognized for this grant for the three and six months ended June 30, 2024. No grant income was recognized for this grant for the three months ended June 30, 2023 and approximately \$192 thousand of grant income was recognized for the six months ended June 30, 2023. This grant was completed as of June 30, 2023.

NIH-NIAID through Geneva Foundation (Federal Award #1R01AI132313-01, Subaward #S-10511-01) – this grant was for approximately \$2.7 million and had an original term of August 2017 through July 2021. The grant was subsequently amended to extend the end date to July 2023. No grant income was recognized for the three and six months ended June 30, 2024, and approximately \$37 thousand and \$273 thousand of grant income was recognized for the three and six months ended June 30, 2023, respectively. This grant was completed as of June 30, 2023.

US Department of Defense (“DoD”), Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense Enabling Biotechnologies (“JPEO”) through Advanced Technology International – this grant was for a potential of \$25 million, awarded in stages starting in August 2019 and with potential stages running through February 2023. Additional contract modifications were added to this contract in 2020 and 2021 for work on a COVID therapeutic, bringing the contract total to \$203.6 million. Deferred grant income recognized was approximately \$263 thousand and \$1.2 million for the three and six months ended June 30, 2024, respectively and \$44 thousand and \$197 thousand for the three and six months ended June 30, 2023, respectively. This grant was terminated in 2022.

The grants for the Company’s Rapid Response contract with JPEO (the “JPEO Rapid Response Contract”) are cost reimbursement agreements, with reimbursement of qualified direct research and development expense (labor and consumables) with an overhead charge (based on actual, reviewed quarterly) and a fixed fee (9%).

On August 3, 2022, the Company received notice from the DoD terminating the JPEO Rapid Response contract (the “JPEO Rapid Response Contract Termination”). The Company engaged in negotiations with the DoD to compensate the Company for services provided prior to the JPEO Rapid Response Contract Termination and costs the Company would be expected to bear in future periods. A termination and settlement proposal was submitted to the DoD on September 9, 2022; the Company submitted a final invoice on December 15, 2022; and received payment from the DoD on or about January 12, 2023. The terms of the arrangement provide for a cost-reimbursable structure, and state that the parties will work in good faith equitable reimbursement for work performed toward accomplishment of the tasks provided in the agreement. At this time, other than certain deferred obligations (presented within deferred grant income within the Company’s condensed consolidated unaudited balance sheet) potentially payable to the DoD solely due to subsequent negotiations with third-party vendors, the Company believes and has been advised there is a reasonable, good faith basis for the position that no present or future obligations exist. Revenue recognized subsequent to the JPEO Rapid Response Contract Termination relates to satisfaction of residual obligations under the termination and settlement agreement—see Note 2, *Summary of Significant Accounting Policies* for further information about the Company’s established revenue recognition process.

(5) Earnings per share

The following is a reconciliation of the numerator and denominator used to calculate basic earnings per share and diluted earnings per share for the three and six months ended June 30, 2024 and 2023:

	Three Months Ended June 30,		For The Six Months Ended June 30,	
	2024	2023	2024	2023
Calculation of basic and diluted loss per share attributable to the Company’s shareholders				
Net loss attributable to the Company’s shareholders	\$ (7,335,455)	\$ (6,880,886)	\$ (12,361,200)	\$ (14,234,706)
Weighted-average common shares outstanding – basic and diluted	9,255,025	5,042,126	9,248,503	5,040,741
Net loss per share, basic and diluted	\$ (0.79)	\$ (1.36)	\$ (1.34)	\$ (2.82)

The Company’s potentially dilutive securities, which include stock options, restricted stock awards, common stock warrants, earnout shares, and contingently issuable earnout shares have been excluded from the computation of diluted net loss per share as the effect would be to reduce the net loss per share. Therefore, the weighted average number of common shares outstanding used to calculate both basic and diluted net loss per share attributable to common stockholders is the same. The Company excluded the following potential common shares, presented based on amounts outstanding at each period end, from the computation of diluted net loss per share attributable to common stockholders for the periods indicated because including them would have had an anti-dilutive effect:

	For The Six Months Ended June 30,	
	2024	2023
Stock options and awards	1,926,100	61,065
Convertible Debt	41,159	38,262
Common Stock Warrants (1)	2,233,407	1,383,289
Series A Preferred Stock (2)	6,704,122	—
Preferred Stock Warrants (3)	23,803,334	—
Contingently issuable Earnout Shares from unexercised Rollover Options	150,806	150,806
Total	34,858,928	1,633,422

- (1) Contained within common stock warrants are the 575,000 public warrants (the “Public Warrants”), 20,860 warrants held by assignees of Big Cypress Holdings, LLC (the “Private Placement Warrants”), 30,000 warrants held by Ladenburg

Thalmann & Co. Inc. (the “Ladenburg Warrants”), 736,337 warrants issued to the investors in the December 2022 Private Placement (the “PIPE Warrants”), 21,091 warrants issued to the placement agent in the December 2022 Private Placement (the “PIPE Placement Agent Warrants”), and 850,119 Preferred PIPE Placement Agent Warrants issued to the placement agent in the September 2023 Offering. See Note 12, *Warrants* for further details on the Company’s outstanding warrants.

- (2) Represents shares of common stock underlying 42,236 issued, outstanding, and convertible shares of Series A-2 Preferred Stock. See Note 10, *Stockholders’ Equity* for further details on the Company’s preferred stock.
- (3) Represents 6,800,953 and 17,002,381 common shares underlying 42,846 outstanding Tranche B Warrants and 107,115 outstanding Tranche C Warrants, respectively.

(6) Property, plant and equipment

As of June 30, 2024 and December 31, 2023, the Company’s property, plant and equipment was as follows:

	June 30, 2024	December 31, 2023
Laboratory equipment (1)	\$ 11,254,698	\$ 9,415,210
Animal facility leasehold improvements	8,357,667	8,357,667
Animal facility equipment	1,188,854	1,137,666
Construction-in-progress	23,360	—
Leasehold improvements (1)	7,064,721	9,296,344
Vehicles	208,453	208,453
Office furniture and equipment (1)	1,732,210	1,233,038
Total Property, plant and equipment, gross	29,829,963	29,648,378
Less: accumulated depreciation and amortization	(12,908,468)	(9,911,859)
Property, plant and equipment, net	\$ 16,921,495	\$ 19,736,519

(1) The Company re-classed \$2.2 million of leasehold improvements to laboratory equipment (\$1.8 million) and office furniture and equipment (\$470 thousand) as of June 30, 2024.

Depreciation and amortization expense was \$1.0 million and \$3.0 million for the three and six months ended June 30, 2024, respectively, and \$0.9 million and \$1.8 million, respectively, for the three and six months ended June 30, 2023, respectively. During the six months ended June 30, 2024, the Company recorded expense of approximately \$0.9 million for an out-of-period adjustment related to the amortization of leasehold improvements, \$0.7 million is included in research and development expense and \$0.2 million is included in general and administrative expense.

(7) Leases

The Company has an operating lease for lab space from Sanford Health, under a lease that started in June 2014 and initially ended in June 2019, at which time the lease was extended through August 2024. This lease can be terminated with one-year advance written notice. This lease was amended again in October 2022 to reduce the Company’s leased area to 21,014 square feet. Additionally, pursuant to the amendment in October 2022, the Company and Sanford Health agreed for the period of October 2022 to September 2023, the Company’s obligation to pay the Annual Rent shall be abated and not required to be paid when normally due (the “Abated Rent”). In exchange for the Abated Rent, effective October 1, 2022, the Company issued Sanford Health an 8% unsecured, convertible promissory note (see Note 9, *Notes Payable* for further discussion). The October 2022 amendment was accounted for as a lease modification under ASC 842 - *Leases* and the right-of-use asset and lease liability were remeasured at the modification date of October 1, 2022. The October 2022 lease amendment reduced the lease payment to approximately \$45 thousand per month through 2023 and approximately \$46 thousand per month through 2024. The lease does not provide an implicit rate, and, therefore, the Company used an IBR of 6.92% as the discount rate when measuring the operating lease liability. The operating lease does not include an option to extend beyond the life of the current term. The Company estimated the IBR based upon comparing interest rates available in the market for similar borrowings and the credit quality of the Company.

The Company entered into a lease for office, laboratory, and warehouse space in November 2020, which was amended in July 2022 to add additional administrative and lab space. This amended lease has a 3-year term, with options to extend for 3 additional periods of 3 years each. The options were not included in the right of use calculation as it is unclear as to whether or not the location will meet the Company’s requirements beyond the next three years. The July 2022 amendment was accounted for as a separate contract under ASC 842 - *Leases*. This lease renewed in November 2023. The lease costs are \$36 thousand, \$3 thousand and \$31 thousand per month for the original leased space on November 2020, the amendment on July 2022, and the November 2023 lease renewal, respectively. The Company used an IBR of 4.69%, 6.60%, and 8.14%, as the discount rate when measuring the operating lease liability for the original

leased space on November 2022, the amendment in July 2022, and the November 2023 lease renewal, respectively. The Company estimated the IBR based upon comparing interest rates available in the market for similar borrowings and the credit quality of the Company.

The Company entered into a lease for office space in April 2024. The Company leased 1,272 square feet, representing the Company's principal executive offices, in Miami Beach, Florida. The initial term of the lease is 62 months. The lease costs are approximately \$7 thousand per month through 2024, with annual increases of 4% through 2029. The Company used an IBR of 7.12%, as the discount rate when measuring the operating lease liability. The operating lease does not include an option to extend beyond the life of the current term. The Company estimated the IBR based upon comparing interest rates available in the market for similar borrowings and the credit quality of the Company.

The Company has the following finance leases:

- In December 2018, the Company entered into a finance lease with Dakota Ag Properties for a new animal facility which includes the surrounding land. The facility and the land have been accounted for as separate lease components. The lease is based upon payback of \$4 million in construction costs, with a 20-year term at an interest rate of 8%. The monthly payment for this lease is \$34 thousand. The Company has the option to purchase the asset at any time during the term of the lease for the balance of the unamortized lease payments.
- In December 2018, the Company entered into an equipment lease for a 12,000-gallon propane tank that is located on the Company's animal facility. The lease is for five years, with an annual payment of \$8 thousand. The Company has the option to purchase the asset at any time during the term of the lease for the balance of the unamortized lease payments.

The lease agreements do not require material variable lease payments, residual value guarantees or restrictive covenants.

The amortizable lives of the operating lease assets are limited by their expected lease terms. The amortizable lives of the finance lease assets are limited by their expected lives, as the Company intends to exercise the purchase options at the end of the leases. The following is the estimated useful lives of the finance lease assets:

Animal Facility	40 years
Equipment	3–7 years
Land	Indefinite

The Company's weighted-average remaining lease term and weighted-average discount rate for operating and finance leases as of June 30, 2024 are:

	Operating	Finance
Weighted-average remaining lease term	3.01	14.42
Weighted-average discount rate	7.74 %	7.72 %

The table below reconciles the undiscounted future minimum lease payments under non-cancelable leases with terms of more than one year to the total lease liabilities recognized on the condensed consolidated balance sheets as of June 30, 2024:

	Operating	Finance
2024 — remaining	\$ 307,587	\$ 200,748
2025	452,135	401,496
2026	393,349	401,496
2027	86,721	401,496
2028	90,190	401,496
Thereafter	57,762	3,981,502
Undiscounted future minimum lease payments	1,387,744	5,788,234
Less: Amount representing interest payments	(146,593)	(2,302,480)
Total lease liabilities	1,241,151	3,485,754
Less current portion	(458,716)	(137,182)
Noncurrent lease liabilities	\$ 782,435	\$ 3,348,572

Operating lease expense was approximately \$228 thousand and \$448 thousand for the three and six months ended June 30, 2024, respectively, and \$249 thousand and \$492 thousand for the three and six months ended June 30, 2023, respectively. Operating lease costs are included within research and development expenses on the condensed consolidated statements of operations.

Finance lease costs for the three and six months ended June 30, 2024 included approximately \$22 thousand and \$43 thousand, respectively, in right-of-use asset amortization and approximately \$67 thousand and \$136 thousand, respectively, of interest expense.

Finance lease costs for the three and six months ended June 30, 2023 included approximately \$23 thousand and \$48 thousand, respectively, in right-of-use-asset amortization and approximately \$71 thousand and \$140 thousand, respectively, of interest expense. Finance lease costs are included within research and development expenses on the condensed consolidated statements of operations.

Cash payments under operating leases were approximately \$246 thousand and \$477 thousand for the three and six months ended June 30, 2024, respectively, and \$118 thousand and \$236 thousand for the three and six months ended June 30, 2023, respectively. Cash payments under finance leases were approximately \$100 thousand and \$201 thousand for the three and six months ended June 30, 2024, respectively, and \$103 thousand and \$206 thousand for the three and six months ended June 30, 2023, respectively.

(8) Accrued Expenses and Other Current Liabilities

As of June 30, 2024 and December 31, 2023, accrued expenses and other current liabilities consisted of the following:

	June 30, 2024	December 31, 2023
Payroll and employee-related costs	\$ 2,838,148	\$ 3,400,308
Accrued research and development expenses	64,850	480,435
Accrued legal fees	821,205	907,816
Accrued financing fees payable	1,011,750	1,461,149
Accrued interest	98,383	77,995
Other accrued expenses	219,999	364,478
	<u>\$ 5,054,335</u>	<u>\$ 6,692,181</u>

(9) Notes Payable

8% Unsecured Convertible Note

Pursuant to the fourth amendment to the Company's lease with Sanford Health, the Company and Sanford Health agreed to a period of abated rent (the "Abated Rent") from October 1, 2022 to September 30, 2023. In exchange for the Abated Rent, effective as of October 1, 2022, the Company issued to Sanford Health an 8% unsecured, convertible promissory note (the "8% Unsecured Convertible Note").

Pursuant to the 8% Unsecured Convertible Note, the Company shall pay the sum of approximately \$542 thousand (the "Principal") plus accrued and unpaid interest thereon on September 30, 2024 (the "Maturity Date"). Simple interest shall accrue on the outstanding Principal from and after the date of the 8% Unsecured Convertible Note and shall be payable on the Maturity Date. Sanford Health shall have the right, but not the obligation, to convert all or any part of the outstanding Principal of the 8% Unsecured Convertible Note, together with any accrued and unpaid interest thereon to the date of such conversion, into such number of fully paid and non-assessable shares of the Company's common stock, at any time and from time to time, prior to the later of the Maturity Date and the date on which the 8% Unsecured Convertible Note is paid in full, subject to certain restrictions, at a conversion price per share of common stock equal to greater of \$15.00 and the price at which the Company sells shares of common stock in any bona fide private or public equity financing prior to the Maturity Date.

The Company evaluated the treatment of the 8% Unsecured Convertible Note under ASC 470 and determined the Principal in its entirety would be allocated to debt. The Company's condensed consolidated balance sheet as of June 30, 2024 includes accrued interest relating to the 8% Unsecured Convertible Note of approximately \$76 thousand. The Company incurred approximately \$11 thousand and \$22 thousand of interest expense for the three and six months ended June 30, 2024 and 2023, respectively, related to the 8% Unsecured Convertible Note.

Insurance Financing Note

The Company obtained financing for certain Director & Officer liability insurance policy premiums. The agreement assigns First Insurance Funding ("Lender") a first priority lien on and security interest in the financed policies and any additional premium required in the financed policies including (a) all returned or unearned premiums, (b) all additional cash contributions or collateral amounts assessed by the insurance companies in relation to the financed policies and financed by Lender, (c) any credits generated by the financed policies, (d) dividend payments, and (e) loss payments which reduce unearned premiums. If any circumstances exist in which premiums related to any Financed Policy could become fully earned in the event of loss, Lender shall be named a loss-payee with respect to such policy.

The total premiums, taxes and fees financed is approximately \$765 thousand with an annual interest rate of 7.96%. In consideration of the premium payment by Lender to the insurance companies or the Agent or Broker, the Company unconditionally promises to pay

Lender the amount financed plus interest and other charges permitted under the agreement. The Company paid the insurance financing note through installment payments with the last payment for the current note being September 22, 2024. At June 30, 2024 and December 31, 2023, the Company recognized approximately \$74 thousand and \$509 thousand, respectively, as an insurance financing note payable in its condensed consolidated balance sheets. The Company incurred interest expense related to the insurance financing note of approximately \$4 thousand and \$12 thousand for the three and six months ended June 30, 2024, respectively and approximately \$4 thousand and \$13 thousand for the three and six months ended June 30, 2023, respectively.

(10) Stockholders' Equity

Authorized and Outstanding Capital Stock

The total number of shares of the Company's authorized capital stock is 810,000,000. The total amount of authorized capital stock consists of 800,000,000 shares of common stock and 10,000,000 shares of preferred stock.

Series A Preferred Stock

On September 29, 2023, the Company entered into a securities purchase agreement (the "September 2023 Purchase Agreement") with certain accredited investors, pursuant to which the Company agreed to issue and sell, in a private placement (the "September 2023 Offering"), (i) 7,500 shares of Series A-1 Convertible Preferred Stock, par value \$0.0001 per share, for an aggregate offering price of \$7.5 million (the "Series A-1 Preferred Stock"), (ii) tranche A warrants (the "Preferred Tranche A Warrants") to acquire shares of Series A-1 Preferred Stock or Series A-3 Preferred Stock, par value \$0.0001 per share, for an aggregate exercise price of \$70.5 million (the "Series A-3 Preferred Stock"), (iii) tranche B warrants to acquire shares of Series A-3 Preferred Stock, par value \$0.0001 per share, for an aggregate exercise price of \$52.0 million (the "Preferred Tranche B Warrants"), and (iv) tranche C warrants to purchase Series A-3 Preferred Stock, par value \$0.0001 per share, for an aggregate exercise price of \$130.0 million (the "Preferred Tranche C Warrants" and together with the Preferred Tranche A Warrants, and Preferred Tranche B Warrants, the "Preferred Warrants" and the shares underlying the Preferred Warrants, the "Preferred Warrant Shares").

On October 3, 2023, the Company closed on the issuance of the 7,500 shares of Series A-1 Preferred Stock (the "Initial Issuance Date"). In connection with the issuance of the 7,500 shares of Series A-1 Preferred Stock, gross proceeds were \$7.5 million, before deducting fees to be paid to the placement agent and financial advisors of the Company and other offering expenses payable by the Company. The Company intends to use the net proceeds from the September 2023 Offering for working capital purposes and other general corporate purposes and to advance its SAB-142-101 clinical trial.

The Company recorded \$7.5 million in gross proceeds associated with the initial issuance of the September 2023 Offering whereby the Company issued 7,500 shares of Series A-1 Convertible preferred stock the Preferred Warrants. The Company estimated the initial value of the warrants to be \$10.9 million. Since the warrants are classified as liabilities, the initial amount recorded as the warrant liability was equal to the estimated fair value of the warrants. Since the fair value of these warrants exceeded the equity proceeds, the entire amount of proceeds were allocated to the warrants and the remaining value allocated to the warrants resulted in a \$3.4 million loss on the issuance of the Series A Preferred Stock.

Subject to the terms and limitations contained in the Certificate of Designation of Preferences, Rights and Limitations of the Series A Convertible Voting Preferred Stock (the "Certificate of Designation"):

- The Series A-1 Preferred Stock issued in the September 2023 Offering became convertible upon receipt of certain requisite approvals by the Company's stockholders related to the offering (the "Stockholder Approval").
- On the first trading day following the announcement of the Stockholder Approval, each share of Series A-1 Preferred Stock became automatically convertible into common stock, at the conversion price of \$6.30 per share (the "Conversion Price"), provided that to the extent such conversion would cause a holder of Series A-1 Preferred Stock to exceed the applicable beneficial ownership limitation, such holder will receive shares of Series A-2 Preferred Stock, par value \$0.0001 per share (the "Series A-2 Preferred Stock"), in lieu of common stock.
- At the option of the holder, each share of Series A-2 Preferred Stock and Series A-3 Preferred Stock will be convertible into common stock, at the Conversion Price (which is subject to appropriate adjustment in the event of any stock dividend, stock split, combination or other similar recapitalization).

The Preferred Tranche A Warrants became exercisable beginning on October 2, 2023, (the "Issuance Date") until the earlier of (i) fifteen (15) trading days following the date of the public announcement of the fulsome data set from the Sanofi S.A. Protect trial or (ii) December 15, 2023. If any purchaser in the September 2023 Offering failed to exercise their Preferred Tranche A Warrant in full prior to its expiration date, such purchaser forfeited all Preferred Tranche A Warrants, Preferred Tranche B Warrants, and Preferred Tranche C Warrants issued to them.

The Preferred Tranche B Warrants became exercisable commencing on the Exercisability Date (as defined in the Form of Preferred Tranche B Warrant) until the later of (i) 15 days following the Company's announcement of data from its SAB-142-101 clinical trial and (ii) March 31, 2025.

The Preferred Tranche C Warrants became exercisable commencing on the Exercisability Date (as defined in the Form of Preferred Tranche C Warrant) until the five (5) year anniversary of the Exercisability Date.

Prior to the extended mandatory exercise time of certain Preferred Tranche A Warrants, certain investors informed the Company that they would not exercise such warrants. Certain other investors in the offering agreed to assume and exercise 16,269 of the 27,115 unexercised Preferred Tranche A Warrants and received 10,846 of the Preferred Tranche B Warrants and 27,115 of the Preferred Tranche C Warrants from the transferring Investors. The balance of the unexercised Preferred Tranche A Warrants and the remaining Tranche B Warrants and Tranche C Warrants issued to the investors who failed to exercise their Tranche B Warrants were cancelled. Following these updates to the offering, the Company issued 59,654 shares of Series A-1 Preferred Stock for aggregate proceeds of approximately \$59.65 million upon the exercise of the Tranche A Warrants.

In connection with the September 2023 Offering, the Company issued an aggregate of 67,154 shares of Series A-1 Convertible Preferred Stock. Following shareholder approval of the September 2023 Offering and pursuant to the Certificate of Designation, 24,918 shares of Series A-1 Convertible Preferred Stock were automatically converted into an aggregate of 3,954,674 shares of common stock, and the remaining 42,236 shares of Series A-1 Convertible Preferred Stock were converted into an aggregate of 42,236 shares of Series A-2 Convertible preferred stock.

The following is a summary of the terms of the Series A Preferred Stock:

Dividends. At all times while shares of Series A Preferred Stock are issued and outstanding, holders of Series A Preferred Stock shall be entitled to receive dividends on shares of Series A Preferred Stock equal (on an as-if-converted-to-Common- Stock basis) to and in the same form as dividends actually paid on shares of the Common Stock.

Voting Rights. Holders of the Series A Preferred Stock are entitled to vote together with the Common Stock on an as-if-converted-to-Common-Stock basis. Holders of Common Stock are entitled to one vote for each share of Common Stock held on all matters submitted to a vote of stockholders. Accordingly, holders of Series A Preferred Stock will be entitled to one vote for each whole share of Common Stock into which their Series A Preferred Stock is then-convertible on all matters submitted to a vote of stockholders, except that the holders of Series A Preferred Stock are not entitled to vote their shares of Series A Preferred Stock in excess of the "beneficial ownership blocker" set forth in the Series A Certificate of Designations, as it relates to each holder of Series A Preferred Stock. Each holder of Series A Preferred Stock may designate whether the limit of such beneficial ownership blocker is 4.99% or 9.99% of the shares of Common Stock outstanding.

For information pertaining to the Company's outstanding warrants to purchase shares of the Company's preferred stock, see Note 12, *Warrants*.

Earnout Shares

On October 22, 2021 (the "Closing Date"), the Company consummated the business combination (the "Business Combination") contemplated by the agreement and plan of merger, dated as of June 21, 2021, as amended on August 12, 2021, made by and among Big Cypress Acquisition Corp., a Delaware corporation ("BCYP"), Big Cypress Merger Sub Inc., a Delaware corporation ("Merger Sub"), the Company, and Shareholder Representative Services LLC, a Colorado limited liability company, solely in its capacity as the representative, agent and attorney-in-fact of the SAB Stockholders (the "Business Combination Agreement"). Upon closing of the Business Combination, Merger Sub merged with SAB Biotherapeutics, with SAB Biotherapeutics as the surviving company of the merger. Upon closing of the Business Combination, BCYP changed its name to "SAB Biotherapeutics, Inc."

Additionally, the Business Combination Agreement included an earnout provision whereby the shareholders of SAB Biotherapeutics shall be entitled to receive additional consideration ("Earnout Shares") if the Company meets certain Volume Weighted Average Price ("VWAP") thresholds, or a change in control with a per share price exceeding the VWAP thresholds within a five-year period immediately following the Closing.

The Earnout Shares shall be released in four equal increments as follows:

- (i) 25% of the Earnout Shares shall be released if, at any time during the five (5)-year period immediately following the Closing Date, the VWAP of the Company's publicly traded common stock is greater than or equal to \$150.00 for any twenty (20) trading days within a period of thirty (30) consecutive trading days (the "First Earnout").
- (ii) 25% of the Earnout Shares shall be released if, at any time during the five (5)-year period immediately following the Closing Date, the VWAP of the Company's publicly traded common stock is greater than or equal to \$200.00 for any twenty (20) trading days within a period of thirty (30) consecutive trading days (the "Second Earnout").

- (iii) 25% of the Earnout Shares shall be released if, at any time during the five (5)-year period immediately following the Closing Date, the VWAP of the Company's publicly traded common stock is greater than or equal to \$250.00 for any twenty (20) trading days within a period of thirty (30) consecutive trading days (the "Third Earnout").
- (iv) 25% of the Earnout Shares shall be released if, at any time during the five (5)-year period immediately following the Closing Date, the VWAP of the Company's publicly traded common stock is greater than or equal to \$300.00 for any twenty (20) trading days within a period of thirty (30) consecutive trading days (the "Fourth Earnout" and together with the First Earnout, the Second Earnout and the Third Earnout, the "Earnouts").

Pursuant to the terms of the Business Combination Agreement, SAB Biotherapeutics' securityholders (including vested option holders) who own SAB Biotherapeutics securities immediately prior to the Closing Date will have the contingent right to receive their pro rata portion of (i) an aggregate of 1,200,000 Earnout Shares, of which 150,806 are contingently issuable based upon future satisfaction of the aforementioned VWAP thresholds. The remaining 1,049,194 are legally issued and outstanding, if the Company does not meet the above VWAP thresholds, or a change in control with a per share price below the VWAP thresholds occurs within a five-year period immediately following the Closing Date, the shares will be returned to the Company.

The Earnout Shares are indexed to the Company's equity and meet the criteria for equity classification. On the Closing Date, the fair value of the 1,200,000 Earnout Shares was \$101.3 million. The Company recorded the Earnout Shares as a stock dividend by reducing additional paid-in capital, which was offset by the increase in additional paid-in capital associated with the Business Combination.

Sales Agreement

As previously disclosed, on January 26, 2024, the Company entered into a Controlled Equity Offering Sales Agreement (the "Sales Agreement") with Cantor Fitzgerald & Co. ("Cantor"), relating to shares of common stock. In accordance with the terms of the Sales Agreement, the Company may offer and sell shares of our common stock having an aggregate offering price of up to \$20,000,000 from time to time through Cantor, acting as the Company's sales agent. For the period ended June 30, 2024, the Company did not offer or sell any shares of common stock pursuant to the Sales Agreement.

(11) Stock Option Plans

On August 5, 2014, the Company approved a stock option grant plan (the "2014 Equity Incentive Plan") for employees, directors, and non-employee consultants, which provides for the issuance of options to purchase common stock. As of June 30, 2024, there were 728,650 shares of common stock reserved for issuance under the 2014 Equity Incentive Plan, with 239,337 shares of common stock available for grant and 489,313 shares of common stock underlying outstanding grants.

The Company adopted the 2021 Omnibus Equity Incentive Plan (as amended, the "2021 Equity Incentive Plan", and collectively with the 2014 Equity Incentive Plan, the "Equity Compensation Plans"), which reserved 1,100,000 shares of common stock for issuance. At the beginning of each calendar year, the shares reserved for future issuance shall increase by two percent (2%) of the total number of shares of common stock issued and outstanding on a fully-diluted basis as of the end of the Company's immediately preceding fiscal year (or such lesser number of shares, including no shares, determined by the Board in its sole discretion); provided, however, that the aggregate number of additional shares available for issuance pursuant to this paragraph (b) shall not exceed a total of 500,000 shares. In June 2024, the Company held the 2024 Annual Meeting of Stockholders (the "2024 Annual Meeting"). At the 2024 Annual Meeting, the stockholders of the Company approved an amendment to the 2021 Equity Incentive Plan which, among other things, increased the number of shares of common stock available for grant under the 2021 Equity Incentive Plan by 3,900,000 (the "2021 Plan Amendment"). As of June 30, 2024, there were up to 5,500,000 shares of common stock reserved for issuance under the 2021 Equity Incentive Plan following the 2021 Plan Amendment, with 4,036,053 shares of common stock available for grant and 1,463,947 shares of common stock underlying outstanding grants.

The expected term of the stock options was estimated using the "simplified" method, as defined by the SEC's Staff Accounting Bulletin No. 107, *Share-Based Payment*. The volatility assumption was determined by examining the historical volatilities for industry peer companies, as the Company does not have sufficient trading history for its common stock. The risk-free interest rate assumption is based on the U.S. Treasury instruments whose term was consistent with the expected term of the options. The dividend assumption is based on the Company's history and expectation of dividend payouts. The Company has never paid dividends on its common stock and does not anticipate paying dividends on its common stock in the foreseeable future. Therefore, the Company has assumed no dividend yield for purposes of estimating the fair value of the options.

Stock Options

Stock option activity for employees and non-employees under the Equity Compensation Plans for the six months ended June 30, 2024 was as follows:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (periods)	Aggregate Intrinsic Value
Outstanding options, December 31, 2023	1,009,519	\$ 15.01	6.19	\$ 664,967
Granted	1,104,000	\$ 5.13		
Forfeited	(204,767)	\$ 6.60		
Exercised	(3,780)	\$ 5.40		
Expired	(18,599)	\$ 44.28		
Outstanding options, June 30, 2024	1,886,373	\$ 9.92	7.63	
Options vested and exercisable, June 30, 2024	618,836	\$ 18.12	4.05	

Total unrecognized compensation cost related to non-vested stock options as of June 30, 2024 was approximately \$5.2 million and is expected to be recognized within future operating results over a weighted-average period of 3.38 years.

The weighted average grant date fair value of options granted during the three and six months ended June 30, 2024, was \$3.23 and \$3.93 per share, respectively. During the three and six months ended June 30, 2024, 36,216 options vested with a fair value totaling \$418 thousand and 114,374 options vested with a fair value totaling \$1.0 million, respectively.

The weighted average grant date fair value of options granted during the three and six months ended June 30, 2023, was \$5.72 and \$4.09 per share, respectively. During the three and six months ended June 30, 2023, 9,193 options vested with a fair value totaling \$453 thousand and 30,555 options vested with a fair value totaling \$1.1 million, respectively.

The estimated fair value of stock options granted to employees and consultants during the three and six months ended June 30, 2024 and 2023, were calculated using the Black-Scholes option-pricing model using the following assumptions:

	Three Months Ended June 30,		For The Six Months Ended June 30,	
	2024	2023	2024	2023
Expected volatility	90.4 %	80.2 - 81.5 %	89.9 - 90.4 %	80.2 - 81.9 %
Weighted-average volatility	90.4 %	80.9 %	89.9 %	81.7 %
Expected dividends	— %	— %	— %	— %
Expected term (in periods)	6.08	5.77 - 6.08	5.73 - 6.08	5.77 - 6.08
Risk-free rate	4.27 %	3.50 - 3.90 %	4.26 - 4.32 %	3.50 - 3.90 %

Restricted Stock

Stock award activity for employees and non-employees under the Equity Compensation Plans for the six months ended June 30, 2024 was as follows:

	Number of shares	Weighted Average Grant Date Fair Value
Unvested as of December 31, 2023	66,887	\$ 11.56
Vested	(27,160)	\$ 11.20
Unvested as of June 30, 2024	39,727	\$ 10.59

At June 30, 2024, the Company had an aggregate of \$405 thousand of unrecognized equity-based compensation related to restricted stock units outstanding. During the three and six months ended June 30, 2024, 4,182 shares with a fair value of \$48 thousand vested and 14,344 shares with a fair value of \$129 thousand vested, respectively. As of June 30, 2024, the Company had 27,160 restricted stock units vested but not issued. The unrecognized expense for restricted stock units is expected to be recognized within future operating results over a weighted average period of 2.36 years.

Stock-based compensation expense

Stock-based compensation expense for the three and six months ended June 30, 2024 and 2023 was as follows:

	Three Months Ended June 30,		For The Six Months Ended June 30,	
	2024	2023	2024	2023
Research and development	\$ 274,317	\$ 166,534	\$ 490,668	\$ 314,225
General and administrative	327,116	478,281	728,210	933,370
Total	\$ 601,433	\$ 644,815	\$ 1,218,878	\$ 1,247,595

(12) Warrants

Public Warrants

Each whole Public Warrant entitles the holder to purchase one share of the Company's common stock at a price of \$115.00 per share, subject to adjustment as discussed herein.

Once the warrants become exercisable, the Company may call the warrants for redemption:

- in whole and not in part;
- at a price of \$0.01 per warrant;
- upon not less than 30 days' prior written notice of redemption (the "30-day redemption period") to each warrant holder; and if, and only if, the reported last sale price of the common stock equals or exceeds \$180.00 per share (as adjusted for stock splits, stock dividends, reorganizations, recapitalizations and the like) for any 20 trading days within a 30-trading day period ending three business days before the Company send the notice of redemption to the warrant holders.

If the Company calls the warrants for redemption as described above, management will have the option to require any holder that wishes to exercise its warrant to do so on a "cashless basis." If management takes advantage of this option, all holders of warrants would pay the exercise price by surrendering their warrants for that number of shares of common stock equal to the quotient obtained by dividing (x) the product of the number of shares of common stock underlying the warrants, multiplied by the excess of the "fair market value" (defined below) over the exercise price of the warrants by (y) the fair market value. The "fair market value" shall mean the average reported last sale price of the common stock for the 10 trading days ending on the third trading day prior to the date on which the notice of redemption is sent to the holders of warrants.

Private Placement Warrants

The Private Placement Warrants and the common stock issuable upon the exercise of the Private Placement Warrants were not transferable, assignable or saleable until after the completion of the Company's merger transaction in 2021. Additionally, the Private Placement Warrants are exercisable on a cashless basis and will be non-redeemable as long as they are held by the initial purchasers or their permitted transferees. If the Private Placement Warrants are held by someone other than the initial purchasers or their permitted transferees, the Private Placement Warrants will be redeemable by the Company and exercisable by such holders on the same basis as the Public Warrants.

PIPE Warrants and PIPE Placement Agent Warrants

In December 2022, the Company entered into a securities purchase agreement with certain institutional and accredited investors for the sale by the Company of 736,337 shares of common stock and the PIPE Warrants to purchase up to 736,337 shares of common stock, in a private placement offering. The combined purchase price of each share and accompanying PIPE Warrant was \$10.80 (the "December 2022 Private Placement"). Three directors of the Company participated in the December 2022 Private Placement, each paying a \$1.25 premium per share and accompanying PIPE Warrant. The PIPE Warrants, including those purchased by the participating directors of the Company, are exercisable at an exercise price equal to \$10.80 per share, and are exercisable for five years from the date of issuance. The Company received gross proceeds of approximately \$8.0 million before deducting transaction related fees and expenses. The Company paid Brookline Capital Markets, the placement agent, a cash fee equal to seven percent of the gross proceeds received by the Company in the December 2022 Private Placement. The Company also issued Brookline Capital Markets the PIPE Placement Agent Warrants to purchase up to an aggregate of 21,091 shares of common stock, equal to 7% of the number of shares purchased by investors introduced to the Company by Brookline Capital Markets. The PIPE Placement Agent Warrants have an exercise price equal to \$13.50 per share and are exercisable six months from the date of issuance and expire five years from the date of issuance.

2023 Ladenburg Agreement Warrants

On March 21, 2023, the Company entered into a settlement agreement with Ladenburg Thalmann & Co. Inc. (“Ladenburg”), effective March 23, 2023 (the “2023 Ladenburg Agreement”, regarding the action brought by Ladenburg, the “Ladenburg Action”). In connection with the 2023 Ladenburg Agreement, on March 24, 2023, the Company (i) issued the Ladenburg Warrants to purchase up to 30,000 shares of common stock, exercisable for three years from the date of issuance at \$5.424 per share; and (ii) furnished to Ladenburg a one-time cash payment of \$500 thousand. Pursuant to the terms and subject to the conditions set forth in the 2023 Ladenburg Agreement, the Company will (i) no later than June 30, 2023, pay \$1.5 million to Ladenburg in cash or shares of common stock, at the Company’s option; and (ii) no later than December 31, 2023, pay \$1.1 million to Ladenburg in cash or shares of common stock, at the Company’s option. Following the completion of the Company’s obligations under the 2023 Ladenburg Agreement, Ladenburg has agreed to dismiss the Ladenburg Action with prejudice and extinguish any and all obligations of the Company in connection therewith. All consideration contemplated by the 2023 Ladenburg Agreement are contained within accrued expenses and other current liabilities within the Company’s condensed consolidated balance sheet as of December 31, 2022. On June 30, 2023, in accord with the terms of the agreement, the Company issued 191,689 shares of common stock to satisfy a portion of its obligations under the 2023 Ladenburg Agreement. Following the completion of the 2023 Private Placement, the Company settled the remaining \$1.1 million due to Ladenburg in cash.

September 2023 Purchase Agreement Warrants

As of June 30, 2024, the Company had outstanding 42,846 Tranche B Warrants to acquire shares of Series A-3 Preferred Stock for an aggregate exercise price of approximately \$42.85 million, and 107,115 Tranche C Warrants to purchase shares of Series A-3 Preferred Stock for an aggregate exercise price of approximately \$107.1 million.

Both the Tranche B Warrants and Tranche C Warrants were classified as derivative liabilities because they are redeemable for cash upon occurrence of a Fundamental Transaction, (as defined in the Forms for such warrants), which may be outside the control of the Company.

Preferred PIPE Placement Agent Warrant

On November 21, 2023, the Company issued to Chardan Capital Markets LLC, the placement agent for the September 2023 Offering, a warrant to purchase 850,119 shares (as adjusted following the Reverse Stock Split) of the Company’s common stock (“the Preferred PIPE Placement Agent Warrants”). The Preferred PIPE Placement Agent Warrants have an exercise price equal to \$6.30 per share (subject to adjustment for stock dividends and splits) and are exercisable in whole or in part, at any time or times on or after the issuance date and on or before October 2, 2028. The Preferred PIPE Placement Agent Warrant was classified in equity in additional paid-in capital.

The following table summarizes warrant activity for the six months ended June 30, 2024:

Transaction	Outstanding December 31, 2023	Warrants Issued	Warrants Exercised	Warrants Forfeited	Outstanding June, 30, 2024
Business Combination Public Warrants	575,000	—	—	—	575,000
Private Placement Warrants	20,860	—	—	—	20,860
PIPE Warrants	736,337	—	—	—	736,337
PIPE Placement Agent Warrants	21,091	—	—	—	21,091
Ladenburg Warrants	30,000	—	—	—	30,000
Tranche B Warrants	42,846	—	—	—	42,846
Tranche C Warrants	107,115	—	—	—	107,115
Preferred PIPE Placement Agent Warrants	850,119	—	—	—	850,119

Presentation and Valuation of the Warrants — Liability Classified Warrants

Public Warrants and Private Placement Warrants

The Public Warrants and Private Placement Warrants are accounted for as liabilities in accordance with ASC 815-40, *Derivatives and Hedging—Contracts in Entity’s Own Equity* and were presented within warrant liabilities on the condensed consolidated balance sheets as of June 30, 2024 and December 31, 2023. The initial fair value of the warrant liabilities was measured at fair value at the Closing Date, and changes in the fair value of the warrant liabilities were presented within changes in fair value of warrant liabilities in the condensed consolidated statements of operations for six months ended June 30, 2024 and 2023.

On the Closing Date, the Company established the fair value of the Private Placement Warrants utilizing both the Black-Scholes Merton formula and a Monte Carlo Simulation (the “MCS”) analysis. Specifically, the Company considered an MCS to derive the implied volatility in the publicly-listed price of the Public Warrants. The Company then considered this implied volatility in selecting the volatility for the application of a Black-Scholes Merton model for the Private Placement Warrants. The Company determined the fair value of the Public Warrants by reference to the quoted market price.

The Public Warrants were classified as a Level 1 fair value measurement, due to the use of the quoted market price, and the Private Placement Warrants held privately by assignees of Big Cypress Holdings LLC, were classified as a Level 3 fair value measurement, due to the use of unobservable inputs. See Note 13, *Fair Value Measurements*, for changes in fair value of the Private Placement Warrants.

The key inputs into the valuations as of June 30, 2024 and December 31, 2023 were as follows:

	June 30, 2024	December 31, 2023
Risk-free interest rate	4.59%	4.03%
Expected term remaining (periods)	2.31	2.81
Implied volatility	142.0%	85.0%
Closing common stock price on the measurement date	\$ 0.31	\$ 0.69

Preferred Warrants

Should the Company enter into or be party to a fundamental transaction, the Company will be required to purchase all outstanding Warrants from the holders by paying cash in an amount equal to the Black Scholes Value of the unexercised portion of each Preferred Warrant. As a result, the Preferred Warrants are accounted for as derivative liabilities in accordance with ASC 480 and ASC 815-40, *Derivatives and Hedging—Contracts in Entity’s Own Equity* and were presented within warrant liabilities on the condensed consolidated balance sheets as of June 30, 2024 and December 31, 2023. The initial fair value of the warrant liabilities was measured at fair value at the Closing Date, and changes in the fair value of the warrant liabilities were presented within changes in fair value of warrant liabilities in the condensed consolidated statements of operations and comprehensive loss for the six months ended June 30, 2024 and 2023.

The Company established the fair value of the Preferred Warrants utilizing the Black-Scholes Merton formula.

All tranches of the Preferred Warrants were classified as Level 3 fair value measurements, due to the use of unobservable inputs. See Note 13, *Fair Value Measurements*, for changes in fair value of the Preferred Warrants.

The key inputs utilized in determining the fair value of each Tranche B Warrants as of June 30, 2024 and December 31, 2023 were as follows:

	June 30, 2024	December 31, 2023
Risk-free interest rate (1)	3.65%	2.58%
Expected term remaining (periods) (1)	0.53	0.69
Implied volatility	95.0%	85.0%
Underlying Stock Price (Preferred Series A)	\$ 252.76	\$ 560.56

- (1) Reflects a probability-weighted input derived from multiple Black-Scholes calculations, which take into account the various potential dates for the announcement of the SAB-142-101 data. This probability was estimated to be 45.0% as of December 31, 2023, and further reduced to 30.0% as of June 30, 2024. This adjustment was driven by progress around enrollment for the ongoing clinical trial.

The key inputs utilized in determining the fair value of each Tranche C Warrants as of June 30, 2024 and December 31, 2023 were as follows:

	June 30, 2024	December 31, 2023
Risk-free interest rate (1)	4.39%	3.85%
Expected term remaining (periods) (1)	4.41	4.91
Implied volatility	90.0%	85.0%
Underlying Stock Price (Preferred Series A)	\$ 252.76	\$ 560.56

- (1) Reflects a probability-weighted input derived from multiple Black-Scholes calculations. These calculations incorporate the Company’s estimated probability of dissolution, should SABS’ intellectual property fail to yield positive results in forthcoming clinical trials, potentially leading to dissolution before 2028. The probability was 30% and 25.0% as of June 30, 2024 and December 31, 2023, respectively.

Equity Classified Warrants

The Company determined the Ladenburg Warrants, PIPE Warrants, PIPE Placement Agent Warrants, and Preferred PIPE Placement Agent Warrants met all necessary criteria to be accounted for as equity in accordance with ASC 815-40, *Derivatives and Hedging—Contracts in Entity's Own Equity*. As such, they are presented within additional paid-in capital within Company's condensed consolidated statements of changes in stockholders' equity and condensed consolidated balance sheets.

Warrants classified as equity are initially measured at fair value. Subsequent changes in fair value are not recognized as long as the warrants continue to be classified as equity.

The initial fair value of each PIPE Warrant and PIPE Placement Agent Warrant issued was determined using the Black-Scholes option-pricing model. All relevant terms and conditions for the PIPE Warrant and PIPE Placement Agent Warrant are identical with the exception of the exercise prices of \$10.80 and \$13.50, respectively.

The initial fair value of each Ladenburg Warrant issued and exercisable at \$5.424 was determined using the Black-Scholes option-pricing model.

The key inputs into the valuations as of the 2023 Ladenburg Agreement initial measurement date, March 21, 2023, were as follows:

	<u>Initial Measurement</u>
Risk-free interest rate	3.98 %
Expected term remaining (periods)	3.00
Implied volatility	94.0 %
Closing common stock price on the measurement date	\$ 0.52

Upon initial measurement, the fair value of each Ladenburg Warrant was determined to be \$3.10, per warrant for a value of approximately \$93 thousand. The total fair value of the Ladenburg Warrants was recognized by the Company as a non-cash expense and allocated to additional paid-in capital within the Company's condensed consolidated statement of changes in stockholders' equity and condensed consolidated balance sheet.

The initial fair value of each Preferred PIPE Placement Agent Warrant issued and exercisable at \$6.30 has been determined using the Black-Scholes option-pricing model.

The key inputs into the valuations as of the October 3, 2023 initial measurement date were as follows:

	<u>Initial Measurement</u>
Risk-free interest rate	4.80 %
Expected term remaining (periods)	5.00
Implied volatility	85.0 %
Closing common stock price on the measurement date	\$ 0.63

Upon initial measurement, the fair value of each Preferred PIPE Placement Agent Warrant was determined to be \$4.40, per warrant for a value of approximately \$3.7 million.

(13) Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability (an exit price) in the principal or most advantageous market for the asset or liability in an orderly transaction between market participants on the measurement date. The following fair value hierarchy classifies the inputs to valuation techniques that would be used to measure fair value into one of three levels:

Level 1: Unadjusted quoted prices in active markets for identical assets or liabilities.

Level 2: Inputs other than quoted prices that are observable for the asset or liability, either directly or indirectly. These include quoted prices for similar assets or liabilities in active markets and quoted prices for identical or similar assets or liabilities in markets that are not active.

Level 3: Unobservable inputs that reflect the reporting entity's own assumptions.

The following tables present information about the Company's assets and liabilities that are measured at fair value on a recurring basis at June 30, 2024 and December 31, 2023, and indicate the fair value hierarchy of the valuation inputs the Company utilized to determine such fair value:

	As of June 30, 2024			
	Total	Quoted Prices In Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Assets:				
Cash equivalents				
Money market funds	\$ 549,233	\$ 549,233	\$ —	\$ —
U.S. treasury securities	7,579,282	7,579,282	—	—
Short-term investments				
Mutual funds	7,663,204	7,663,204	—	—
U.S. treasury securities	12,420,417	12,420,417	—	—
Total	\$ 28,212,136	\$ 28,212,136	\$ —	\$ —
Liabilities:				
Public Warrant liability	\$ 282,105	\$ 282,105	\$ —	—
Private Placement Warrant liability	11,473	—	—	11,473
Preferred Warrants	3,795,465	—	—	3,795,465
Total	\$ 4,089,043	\$ 282,105	\$ —	\$ 3,806,938

	As of December 31, 2023			
	Total	Quoted Prices In Active Markets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Other Unobservable Inputs (Level 3)
Liabilities:				
Public Warrant liability	\$ 172,500	\$ 172,500	\$ —	\$ —
Private Placement Warrant liability	6,258	—	—	6,258
Preferred Warrants	11,595,477	—	—	11,595,477
Total	\$ 11,774,235	\$ 172,500	\$ —	\$ 11,601,735

The following table provides a summary of the changes in Level 3 fair value measurements for the Private Placement Warrant liability:

Balance, December 31, 2023	\$ 6,258
Change in fair value of Private Placement Warrant liability	2,086
Balance, March 31, 2024	8,344
Change in fair value of Private Placement Warrant liability	3,129
Balance, June 30, 2024	\$ 11,473

The following table provides a summary of the changes in Level 3 fair value measurements for the Preferred Warrant liabilities:

Balance, December 31, 2023	\$ 11,595,477
Change in fair value of the Preferred Warrant liabilities	(5,527,805)
Balance, March 31, 2024	6,067,672
Change in fair value of the Preferred Warrant liabilities	(2,272,207)
Balance, June 30, 2024	\$ 3,795,465

As of June 30, 2024 and December 31, 2023, the Company did not have any other assets or liabilities that are recorded at fair value on a recurring basis.

The Company believes that the carrying amounts of its cash and cash equivalents, accrued interest receivable, notes payable, accrued expenses and other current liabilities approximate their fair values due to their near-term maturities.

(14) Investments

The fair value and amortized cost of the Company's available-for-sale debt securities, summarized by type of security, consisted of the following:

	As of June 30, 2024			Fair Value
	Amortized Cost	Unrealized Gains	Unrealized Losses	
Short-term:				
U.S. treasury securities	12,464,015	—	(43,598)	12,420,417
Total	12,464,015	—	(43,598)	12,420,417

There were 11 securities in an unrealized loss position at June 30, 2024, all of which have been in a continuous unrealized loss position for less than 12 months. The unrealized losses on the Company's available-for-sale debt securities as of June 30, 2024 were caused by fluctuations in market value and interest rates as a result of the economic environment. The Company concluded that an allowance for credit losses was unnecessary as of June 30, 2024 because the decline in the market value was attributable to changes in market conditions and not credit quality, and that it is neither management's intention to sell nor is it more likely than not that the Company will be required to sell these investments prior to recovery. Gross realized gains and losses on the sale of short-term investments are included in other income in the Company's condensed consolidated statements of operations and comprehensive loss. Realized gains and losses were not material for the three and six months ended June 30, 2024.

During the three and six months ended June 30, 2024, the Company recognized unrealized gains of \$7 thousand and \$15 thousand, respectively, on its equity investments; no gains or losses were realized during these periods. No gains or losses on equity investments were recognized or realized during the three and six months ended June 30, 2023.

Accrued interest receivable, related to the above investment securities amounted to \$225 thousand for the six months ended June 30, 2024 and are included within accrued interest receivable on the condensed consolidated balance sheet. There were no interest receivables as of December 31, 2023.

(15) Income Taxes

Due to current and prior year losses the Company does not expect to have any Income Tax Provision.

The Company continues to record a valuation allowance on its net deferred tax assets. The valuation increased by approximately \$4.6 million during the six months ended June 30, 2024. The Company has not recognized any reserves for uncertain tax positions.

(16) Related Party Transactions

For the three and six months ended June 30, 2024 and 2023, there were no related party transactions with beneficial owners of 5% or more of any class of the Company's voting securities, immediate family members of any of the foregoing persons, and any entities in which any of the foregoing is an executive officer or is an owner of 5% or more ownership interest.

(17) Employee Benefit Plan

The Company sponsors a defined contribution retirement plan. All the Company's employees are eligible to be enrolled in the employer-sponsored contributory retirement savings plan, which include features under Section 401(k) of the Internal Revenue Code of 1986, as amended, and provides for Company matching contributions. The Company's contributions to the plan are determined by its Board of Directors, subject to certain minimum requirements specified in the plan. The Company has historically made matching contributions of 100% on 3% of the employee contributions, with an additional 50% match on the next 2% of employee contributions. The Company made contributions of approximately \$72 thousand and \$229 thousand during the three and six months ended June 30, 2024, respectively, and \$64 thousand and \$139 thousand, during the three and six months ended June 30, 2023, respectively.

(18) Commitments and Contingencies

The Company is not a party to any litigation, and, to its best knowledge, no action, suit, or proceeding has been threatened against the Company which are expected to have a material adverse effect on its financial condition, results of operations or liquidity.

(19) Subsequent Events

The Company evaluated subsequent events through the date of issuance of these condensed consolidated financial statements. The Company has no subsequent events that occurred that would require disclosure in, or would be recognized, in these condensed consolidated financial statements.

Item 2. Management’s Discussion and Analysis of Financial Condition and Results of Operations.

You should read the following discussion and analysis of our financial condition and results of operations together with our consolidated financial statements and the accompanying notes included in Part I, Item 1 of this Form 10-Q. Some of the information contained in this discussion and analysis contains forward-looking statements that involve risks, uncertainties, and assumptions. As a result of many factors, including those factors set forth in the section titled “Risk Factors,” our actual results could differ materially from those discussed in or implied by these forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those discussed in the section titled “Risk Factors.” Please also refer to the section titled “Special Note Regarding Forward Looking Statements.”

Special Note Regarding Forward-Looking Statements

This Quarterly Report on Form 10-Q (this “Quarterly Report” or “Form 10-Q”) includes “forward-looking statements” within the meaning of Section 27A of the Securities Act of 1933, as amended (the “Securities Act”) and Section 21E of the Exchange Act of 1934, as amended (the “Exchange Act”), as amended, that are not historical facts and involve risks and uncertainties that could cause actual results to differ materially from those expected and projected. All statements, other than statements of historical fact included in this Form 10-Q including, without limitation, statements in this “Management’s Discussion and Analysis of Financial Condition and Results of Operations” regarding our financial position, business strategy and the plans and objectives of management for future operations, are forward-looking statements. Words such as “expect,” “believe,” “anticipate,” “intend,” “estimate,” “seek” and variations and similar words and expressions are intended to identify such forward-looking statements. Such forward-looking statements involved known and unknown risks, relate to future events or future performance, but reflect management’s current beliefs, based on information currently available. A number of factors could cause actual events, performance or results to differ materially from the events, performance and results discussed in the forward-looking statements. In addition, historic results, including but not limited to those related to IND enabling GLP safety/toxicology of SAB-142; and Phase 1 & Phase 2a results of SAB-176; do not guarantee that future research or trials will suggest the same conclusions, nor that historic results referred to herein will be interpreted in the same manner due to future preclinical and clinical trial results or otherwise. For information identifying important factors that could cause actual results to differ materially from those anticipated in the forward-looking statements, please refer to the sections entitled “Risk Factors” in this Quarterly Report, our most recent Annual Report on Form 10-K, subsequent Quarterly Reports on Form 10-Q, and other periodic reports filed with the Securities and Exchange Commission (the “SEC”) and available at <https://www.sec.gov/>. Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date hereof. Except as expressly required by applicable law, we disclaim any intention or obligation to update or revise any forward-looking statements whether as a result of new information, future events or otherwise. Although we believe that the expectations reflected in the forward-looking statements are reasonable, we cannot guarantee future results, levels of activity, performance, or achievements.

Company Overview

We are a clinical-stage biopharmaceutical company focused on the development of human polyclonal immunotherapeutic antibodies, or hIgG, to address immune system disorders and infectious diseases. Our antibodies are both target-specific and polyclonal, meaning they are comprised of multiple hIgGs and can bind to multiple sites on specific immunogens, making them ideally suited to address the complexities associated with many immune-mediated disorders. Our lead candidate, SAB-142 is a human ATG focused on preventing or delaying the progression of T1D. We recently initiated a Phase 1 trial of SAB-142 to establish its safety and pharmacokinetic profiles in human subjects.

In addition to SAB-142, we also have clinical stage assets targeting infectious diseases that have significant mortality and morbidity in the general population and in high-risk patients. To date, we have conducted seven clinical trials, including Phase 1, Phase 2 and Phase 3, totaling more than 700 individuals dosed with our proprietary hIgGs. In May of 2023, we received Fast Track Designation and Breakthrough Therapy Designation from the U.S. Food and Drug Administration (the “FDA”) Center for Biologics Evaluation and Research (“CBER”) for our SAB-176 immunoglobulin targeting multiple strains of influenza based upon positive clinical data from a Phase 2a trial.

More broadly, we believe that our proprietary platform, referred to as DiversitAb,[™] holds the potential to generate additional novel therapeutic candidates to expand our pipeline. DiversitAb,[™] utilizes the human immune response to generate the optimal repertoire of IgGs for drug targets of interest. We believe it is the only technology capable of producing disease-targeted, hIgG in large quantities without the need for human plasma donors. We have optimized genetic engineering in the development of transchromosomal cattle, or Tc Bovine, which produce hIgGs. Our engineering of the DiversitAb production system drives IgG1 production across our pipeline. As our lead program SAB-142 advances, we intend to expand our pipeline in complimentary indications through strategic utilization of our platform.

Recent Developments

On May 21, SAB announced that the FDA provided clearance to SAB’s IND application for SAB-142, which enables clinical development of SAB-142 for patients with T1D in the US.

As part of its continuing strategic evolution, SAB rebranded on June 20 as SAB BIO, maintaining its corporate headquarters in Miami. The Company will maintain its legal name “SAB Biotherapeutics, Inc.” and continue doing business as SAB BIO. The Company continues to execute its corporate strategy through building partnerships and expertise that advance its program focus on T1D, including a recent poster presentation at the American Diabetes Association 84th Scientific Session on June 23.

SAB appointed Lucy To as Chief Financial Officer of SAB BIO, whose appointment is effective as of August 12. To joins SAB from Wells Fargo Securities, where she led healthcare investments as Managing Director.

On August 5, 2024, the Company’s announced founding of a new Clinical Advisory Board, comprised of world-renowned experts in T1D and disease modifying therapeutic development. This Board will work closely with SAB leadership to advance and inform our clinical development program for SAB-142.

Corporate Strategy

We are focused on developing product candidates for disease targets where a differentiated approach has the greatest potential to be either first-in-class against novel targets or best-in-class against complex targets to treat diseases with significant unmet medical needs, including immune and autoimmune disorders including T1D. Our business strategy is focused on SAB-142 as a first-in-class, human, multi-target antibody treatment designed to provide superior efficacy and safety in delaying the onset or progression of T1D.

DiversitAb,™ represents the first technology of its kind to produce large-scale human high-titer and high-avidity antibodies across multiple modalities.

Leveraging our proprietary production system will help us advance a robust pipeline of differentiated hIgG-based therapies for the treatment of immune system disorders and infectious diseases. Our hIgGs have been safely demonstrated up through Phase 3 clinical trials with a patient safety database that includes over 700 patients who were safely administered our hIgG therapeutics.

We have a demonstrated regulatory pathway through each of the FDA, CBER, UK Medicines and Healthcare products Regulatory Agency (“MHRA”), and Australian Therapeutic Goods Administration (“TGA”). These organizations understand our science and are familiar with the multivalent and multitarget properties of our single vial drug products. This further streamlines our ability to develop new and novel drug products rapidly and efficiently where single target monoclonal antibodies (“mAbs”) cannot replicate or duplicate our drug product attributes.

Our Product Pipeline

SAB-142: Human Anti-Thymocyte Globulin for Type 1 Diabetes

The following table summarizes our drug candidate, SAB-142 and its existing clinical plan and proposed stages of development.



Figure 1. An overview of phased milestones for SAB-142, starting with Phase 1 study cohorts 1-5 starting end of 2023 through beginning of 2025, with Phase 1 topline results anticipated in late 2024. Phase 2 study POC/DRF is anticipated to begin in early 2025 with Phase 2 topline results expected at the end of 2026.

SAB-142 is a first-in-class, human, multi-target anti-thymocyte globulin treatment designed to provide superior efficacy and safety in delaying the onset or progression of T1D. SAB-142 is expected to reduce autoimmune β -cell destruction and delay progression or onset of T1D in patients with Stage 3 or Stage 2 T1D respectively.

In addition to potentially preserving beta cell function in early T1D patients, SAB-142 offers the potential of re-dosing when examining clinically meaningful indicators such as C-peptide levels and glycosylated hemoglobin (HbA1c), without the potential risk of inducing major immune reactions of analogous animal derived IgGs. The overall long-term safety profile of a low-dose ATG is supportive of the vision to use SAB-142 as a lifelong disease-modifying treatment without a risk of immunosuppression associated with clinically significant effects such as infections, malignancies or suppressed humoral response.

Mechanism of Action

Maintenance of the level of connecting peptide, a short 31 amino acid polypeptide that connects insulin's A chain to its B chain in the proinsulin molecule, commonly referred to as C-peptide, is a validated surrogate endpoint for endogenous insulin production, essential for the prevention of progression of T1D. Placebo controlled trials with low-dose rabbit ATG, defined as a single dose of 2.5 milligram per kilogram (mg/kg), have shown statistically significant maintenance of C-peptide levels and thus a delay in progression of recent onset T1D.

Based on the results of a Phase 2 clinical trial conducted at the University of Florida, a single dose of rabbit ATG showed sustained benefit in T1D over a two-year period by maintaining significantly higher C-peptide levels than a placebo control. However, more than 65% of treated patients in this study acquired serum sickness due to the infusion of a non-human antibody, with symptoms that included rash, malaise, fever, and joint swelling. The symptoms often required treatment with steroids that control serum sickness but impair diabetes management and reduces the capacity to re-dose rabbit ATG when C-peptide levels begin to drop.

While the mechanism of action of our compound closely resembles rabbit ATG, SAB-142 has clear advantages that are fundamental for safe and reliable re-dosing required to delay disease progression. Data from more than 700 human subjects treated with antibodies produced by our platform support expectation of a zero serum sickness rate and zero incidence of neutralizing anti-drug antibodies ("ADA") within the upcoming SAB-142 trials. There is an established regulatory path for T1D indications using the SAB-142 modality. We initiated the Phase 1 clinical study with the first patient dosed November 2023. Finally, our next steps will be to file a clinical trial application ("CTA") in the European Union, and an investigational new drug ("IND") application in the United States to expand the clinical trials to global jurisdictions.

Rabbit ATG shows therapeutic promise but offers problematic potential for adverse events that could inhibit long term disease modification and redosing; we believe those issues are resolved by SAB-142. SAB-142 represents an opportunity to offer a novel human alternative to rabbit- or equine-derived ATG IgGs with potential for safe and reliable re-dosing while avoiding the risk factors observed with currently available therapies.

Clinical Strategy

Immunological processes resulting in the breakdown of self-tolerance and gradual destruction of pancreatic beta cells by the patient's own immune system preceding the clinical onset of disease oftentimes starts very early in patients' lives, sometimes as early as in utero. The average age of clinical onset of T1D is 13 years old. Stage 1 is the start of T1D, marked by individuals having two or more diabetes-related autoantibodies and still normal blood sugar concentrations. In Stage 2, individuals have dysglycemia but without symptoms. Stage 3 is the time of a full clinical diagnosis. Unfortunately, when an individual is first diagnosed with clinical stage T1D, 50- 90% of pancreatic insulin-producing beta cells are already destroyed. Hence, it is critical to start therapy that preserves the remaining fully functional beta cells as soon as possible as it may provide the highest benefit throughout the patient's lifetime.

In addition to the currently approved and ongoing Phase 1, we plan to bring this program to IND and CTA filings with global regulatory authorities by the mid-2024. As there are unmet medical needs globally for disease-modifying treatments of T1D, we plan to work with global health authorities and file clinical trial applications and clinical trial notifications in other countries to have a global footprint and reach patients with T1D worldwide. We anticipate topline results by the end of 2024. Topline data will include the safety data to support re-dosing along with proof of biological activity. Topline data will further enable global Phase 2 clinical proof of concept and dose-range finding trials in adults and even more importantly, in adolescent T1D population, another critical milestone for 2024 as T1D onset most often occurs in pediatric and adolescent patient populations.

SAB-176: Human Anti-Influenza Globulin for High-Risk Influenza

SAB-176 represents a comprehensive approach to treatment and prophylaxis (PreP and PEP) of high-risk patients with influenza as a broadly neutralizing - human polyclonal immunoglobulin therapeutic with several anti-viral mechanisms. SAB-176 was evaluated in an ascending dose, double-blind, randomized, placebo-controlled Phase 1 safety trial in 27 healthy volunteers in 2020. The FDA allowed us to initiate a Phase 1 trial in healthy adults based on the safety profile in the preclinical data set. A Safety Review Committee ("SRC") monitored adverse events after each cohort was infused and recommended that each later cohort could be infused

with the next highest dose according to the study protocol. Although anticipated adverse events were noted among the SAB-176 and placebo participants, no drug related serious adverse events (“SAEs”) were identified by the SRC.

In March 2024, SAB announced that the Navy Medical Research Command (“NMRC”) would be moving forward with a safety and tolerability study to evaluate SAB-176 pursuant to the Cooperative Research and Development Agreement governing the relationship between SAB and the NMRC, with funding for the study provided by the Henry Jackson Foundation.

Key Factors Affecting Our Results of Operations and Future Performance

We believe that our financial performance has been, and in the foreseeable future will continue to be, primarily driven by multiple factors as described throughout our analysis within *Components of Results of Operations* below, each of which presents growth opportunities for our business. These factors also pose important challenges that we must successfully address in order to sustain our growth and improve our results of operations. Our ability to successfully address these challenges is subject to various risks and uncertainties, including those described in the section captioned “Part I, Item 1A, Risk Factors” in our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, and supplemented with the following revised or additional risk factors in “Part II, Item 1A, Risk Factors” included herein.

Components of Results of Operations

Revenue

Our revenue has historically been generated through grants from government and other (non-government) organizations. We currently have no commercially approved products.

Grant revenue is recognized for the period that the research and development services occur, as qualifying expenses are incurred or conditions of the grants are met. We concluded that payments received under these grants represent conditional, nonreciprocal contributions, as described in ASC 958, *Not-for-Profit Entities*, and that the grants are not within the scope of ASC 606, *Revenue from Contracts with Customers*, as the organizations providing the grants do not meet the definition of a customer. Expenses for grants are tracked by using a project code specific to the grant, and the employees also track hours worked by using the project code.

Government grants

Total revenue recognized from government grants was approximately \$263 thousand and \$1.2 million for the three and six months ended June 30, 2024, respectively, and \$86 thousand and \$667 thousand for the three and six months ended June 30, 2023, respectively.

National Institute of Health - National Institute of Allergy and Infectious Disease (“NIH-NIAID”) (Federal Award #1R41AI131823-02) – this grant was for approximately \$1.5 million and had an original term of April 2019 through March 2021. The grant was subsequently amended to extend the end date to March 2023. No grant income was recognized for this grant for the three and six months ended June 30, 2024. No grant income was recognized for this grant for the three months ended June 30, 2023 and approximately \$192 thousand of grant income was recognized for the six months ended June 30, 2023. This grant was completed as of June 30, 2023.

NIH-NIAID through Geneva Foundation (Federal Award #1R01AI132313-01, Subaward #S-10511-01) – this grant was for approximately \$2.7 million and had an original term of August 2017 through July 2021. The grant was subsequently amended to extend the end date to July 2023. No grant income was recognized for the three and six months ended June 30, 2024, and approximately \$37 thousand and \$273 thousand of grant income was recognized for the three and six months ended June 30, 2023, respectively. This grant was completed as of June 30, 2023.

US Department of Defense (“DoD”), Joint Program Executive Office for Chemical, Biological, Radiological and Nuclear Defense Enabling Biotechnologies (“JPEO”) through Advanced Technology International – this grant was for a potential of \$25 million, awarded in stages starting in August 2019 and with potential stages running through February 2023. Additional contract modifications were added to this contract in 2020 and 2021 for work on a COVID therapeutic, bringing the contract total to \$203.6 million. Deferred grant income recognized was approximately \$263 thousand and \$1.2 million for the three and six months ended June 30, 2024, respectively and \$44 thousand and \$197 thousand for the three and six months ended June 30, 2023, respectively. This grant was terminated in 2022.

The grants for the Company’s Rapid Response contract with JPEO (the “JPEO Rapid Response Contract”) are cost reimbursement agreements, with reimbursement of qualified direct research and development expense (labor and consumables) with an overhead charge (based on actual, reviewed quarterly) and a fixed fee (9%).

On August 3, 2022, the Company received notice from the DoD terminating the JPEO Rapid Response contract (the “JPEO Rapid Response Contract Termination”). The Company engaged in negotiations with the DoD to compensate the Company for services provided prior to the JPEO Rapid Response Contract Termination and costs the Company would be expected to bear in future periods. A termination and settlement proposal was submitted to the DoD on September 9, 2022; the Company submitted a final invoice on December 15, 2022; and received payment from the DoD on or about January 12, 2023. The terms of the arrangement provide for a cost-reimbursable structure, and state that the parties will work in good faith equitable reimbursement for work performed toward accomplishment of the tasks provided in the agreement. At this time, other than certain deferred obligations (presented within deferred grant income within the Company’s condensed consolidated unaudited balance sheet) potentially payable to the DoD solely due to subsequent negotiations with third-party vendors, the Company believes and has been advised there is a reasonable, good faith basis for the position that no present or future obligations exist. Revenue recognized subsequent to the JPEO Rapid Response Contract Termination relates to satisfaction of residual obligations under the termination and settlement agreement—see Note 2, *Summary of Significant Accounting Policies* for further information about the Company’s established revenue recognition process.

Operating Expenses

Research and Development Expenses

Research and development expenses primarily consist of salaries, benefits, incentive compensation, stock-based compensation, laboratory supplies and materials for employees and contractors engaged in research and product development, licensing fees to use certain technology in our research and development projects, fees paid to consultants and various entities that perform certain research and testing on our behalf. Research and development expenses are tracked by target/project code. Indirect general and administrative costs are allocated based upon a percentage of direct costs. We expense all research and development costs in the period in which they are incurred.

Research and development activities consist of discovery research for our platform development and the indications we are working on. For SAB-142, Avance Clinical PTY, Ltd (“Avance”), acts as the CRO overseeing our Phase 1 safety study. This study started in December 2023 and the terms of that agreement are subject to confidentiality and the status of the agreement is that it is current. For the three and six months ended June 30, 2024 and 2023, we continued to incur costs to advance our progress towards commercialization of SAB-142. We expect to continue to incur substantial research and development expenses as we conduct discovery research to enhance our platform and work on our indications. We expect to hire additional employees and continue research and development and manufacturing activities. As a result, we expect that our research and development expenses will continue to increase in future periods and vary from period to period as a percentage of revenue.

Major components within our research and development expenses are salaries and benefits (laboratory & farm), laboratory supplies, animal care, contract manufacturing, clinical trial expense, outside laboratory services, project consulting, and facility expense. Our platform allows us to work on multiple projects with the same resources, as the research and development process of each product is very similar (with minimal differences in the manufacturing process).

Research and development expenses by component for the three and six months ended June 30, 2024 and 2023:

	Three Months Ended June 30,	
	2024	2023
Salaries & benefits	\$ 2,472,180	\$ 1,653,081
Laboratory supplies	298,050	177,736
Animal care	174,147	110,248
Clinical trial expense	629,607	109,428
Outside laboratory services	1,427,484	205,168
Project consulting	250,432	62,526
Facility expense	1,531,391	1,328,621
Other expenses	38,907	15,322
Total research and development expenses	<u>\$ 6,822,198</u>	<u>\$ 3,662,130</u>

	Six Months Ended June 30,	
	2024	2023
Salaries & benefits	\$ 4,765,969	\$ 3,369,111
Laboratory supplies	634,403	567,363
Animal care	287,536	692,316
Clinical trial expense	1,435,667	157,036
Outside laboratory services	3,090,639	368,374
Project consulting	530,631	290,625
Facility expense	3,937,427	2,666,809
Other expenses	86,981	86,217
Total research and development expenses	\$ 14,769,253	\$ 8,197,851

General and Administrative Expenses

General and administrative expenses primarily consist of salaries, benefits, and stock-based compensation costs for employees in our executive, accounting and finance, project management, corporate development, office administration, legal and human resources functions as well as professional services fees, such as consulting, audit, tax and legal fees, general corporate costs and allocated overhead expenses. General and administrative expenses also include rent and facilities expenses allocated based upon total direct costs. We expect that our general and administrative expenses will continue to increase in future periods, primarily due to increased headcount to support anticipated growth in the business and due to incremental costs associated with operating as a public company. These costs include expenses related to compliance with rules and regulations applicable to companies listed on a securities exchange, reporting obligations pursuant to SEC and stock exchange listing standards, public relations, insurance, and professional services. Additionally, we anticipate incurring expenses related to the remediation of material weaknesses in our internal control over financial reporting, which involve implementing new processes and engaging with a third-party firm. We expect these expenses to vary from period to period in absolute terms and as a percentage of revenue.

Nonoperating (Expense) Income

Gain (loss) on change in fair value of warrant liabilities

Gain (loss) on change in fair value of warrant liabilities consists of the changes in the fair value of the warrant liabilities.

Other Income (expense)

Other income primarily consists of income associated with the refundable portion of Australian research and development tax credits.

Interest income

Interest income consists of interest earned on our investments in debt securities, cash, and cash equivalents.

Interest expense

Interest expense consists primarily of interest related to abated rent and insurance financing.

Results of Operations

The following tables set forth our results of operations for the three months ended June 30, 2024 and 2023:

	Three Months Ended June 30,	
	2024	2023
Revenue		
Grant revenue	\$ 263,137	\$ 85,518
Total revenue	263,137	85,518
Operating expenses		
Research and development	6,822,198	3,662,130
General and administrative	3,642,637	2,900,006
Total operating expenses	10,464,835	6,562,136
Loss from operations	(10,201,698)	(6,476,618)
Other income (expense)		
Changes in fair value of warrant liabilities	2,216,973	(357,516)
Interest expense	(93,119)	(75,320)
Interest income	374,557	28,568
Other income	367,832	—
Total other income (expense)	2,866,243	(404,268)
Loss before income taxes	(7,335,455)	(6,880,886)
Net loss	\$ (7,335,455)	\$ (6,880,886)

The following tables set forth our results of operations for the six months ended June 30, 2024 and 2023:

	Six Months Ended June 30,	
	2024	2023
Revenue		
Grant revenue	\$ 1,207,712	\$ 666,619
Total revenue	1,207,712	666,619
Operating expenses		
Research and development	14,769,253	8,197,851
General and administrative	8,030,773	6,347,395
Total operating expenses	22,800,026	14,545,246
Loss from operations	(21,592,314)	(13,878,627)
Other income (expense)		
Changes in fair value of warrant liabilities	7,685,192	(274,930)
Interest expense	(169,490)	(167,705)
Interest income	872,450	86,556
Other income	842,962	—
Total other income (expense)	9,231,114	(356,079)
Loss before income taxes	(12,361,200)	(14,234,706)
Income tax expense (benefit)	—	—
Net loss	\$ (12,361,200)	\$ (14,234,706)

Comparison of the three and six months ended June 30, 2024 and 2023

Revenue

	Three Months Ended June 30,		Change	% Change
	2024	2023		
Revenue	\$ 263,137	\$ 85,518	\$ 177,619	207.7%
Total revenue	\$ 263,137	\$ 85,518		

Revenue increased by \$178 thousand, or 207.7%, in the three months ended June 30, 2024 as compared to the three months ended June 30, 2023, primarily due to the JPEO Rapid Response Contract Termination. Included in revenues for the three months ended June 30, 2024, are closeout activities and charges of \$263 thousand due to outside services for laboratory supply disposal, as compared to \$25 thousand for supplies, \$56 thousand for contract manufacturing, and \$4 thousand for license fee income for the three months ended June 30, 2023.

	Six Months Ended June 30,		Change	% Change
	2024	2023		
Revenue	\$ 1,207,712	\$ 666,619	\$ 541,093	81.2%
Total revenue	\$ 1,207,712	\$ 666,619		

Revenue increased by \$541 thousand, or 81.2%, in the six months ended June 30, 2024 as compared to the six months ended June 30, 2023, primarily due to the JPEO Rapid Response Contract Termination. Included in revenues for the six months ended June 30, 2024, are closeout activities and charges of \$1.2 million due to outside services for laboratory supply disposal, as compared to \$70 thousand for supplies, \$151 thousand for labor, and \$442 thousand for contract manufacturing for the six months ended June 30, 2023.

As a result of the JPEO Rapid Response Contract Termination, we expect future revenues to be lower as our primary pipeline development target of Type 1 diabetes remains independently financed as we explore potential partnerships, co-development opportunities, and licensing arrangements.

Research and Development

	Three Months Ended June 30,		Change	% Change
	2024	2023		
Research and development	\$ 6,822,198	\$ 3,662,130	\$ 3,160,068	86.3%
Total research and development expenses	\$ 6,822,198	\$ 3,662,130		

Research and development expenses increased by \$3.2 million, or 86.3%, for the three months ended June 30, 2024 as compared to the three months ended June 30, 2023, primarily due to increases in outside lab services (year-over-year increase of \$1.2 million, 595.8%), salaries and benefits (year-over-year increase of \$0.8 million, 49.5%), overhead (year-over-year increase of \$0.2 million, 16.8%), project consulting (year-over-year increase of \$0.2 million, 300.5%), clinical trial costs (year-over-year increase of \$0.5 million, 475.4%), increase in animal care (year-over-year increase of \$0.1 million, 58.4%) and an increase in laboratory supplies (year-over-year increase of \$0.1 million, 67.7%).

	Six Months Ended June 30,		Change	% Change
	2024	2023		
Research and development	\$ 14,769,253	\$ 8,197,851	\$ 6,571,402	80.2%
Total research and development expenses	\$ 14,769,253	\$ 8,197,851		

Research and development expenses increased by \$6.6 million, or 80.2%, for the six months ended June 30, 2024 as compared to the six months ended June 30, 2023, primarily due to increases in outside lab services (year-over-year increase of \$2.7 million, 739.0%), salaries and benefits (year-over-year increase of \$1.4 million, 41.5%), an out-of-period adjustment of \$0.9 million of amortization expense, overhead (year-over-year increase of \$0.3 million, 12.2%), project consulting (year-over-year increase of \$0.2 million, 82.6%), clinical trial costs (year-over-year increase of \$1.3 million, (814.2%)), laboratory supplies (year-over-year increase of \$0.1 million, 11.8%) offset by a decrease in animal care (year-over-year decrease of \$0.4 million, 58.3%).

General and Administrative

	Three Months Ended June 30,		Change	% Change
	2024	2023		
General and administrative	\$ 3,642,637	\$ 2,900,006	\$ 742,631	25.6%
Total general and administrative expenses	\$ 3,642,637	\$ 2,900,006		

General and administrative expenses increased by \$743 thousand, or 25.6%, in the three months ended June 30, 2024 as compared to the three months ended June 30, 2023, primarily due to salaries and benefits (year-over-year increase of \$798 thousand, 68.3%), project consulting (year-over-year increase of \$4 thousand, 2.4%), human resources, and legal (year-over-year increase of \$50 thousand, 4.1%), offset by a decrease in other administrative support fees relating to IT, and insurance costs (year-over-year decrease of \$109 thousand, 31.7%). We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support our continued research activities and development of our product candidates. We also anticipate that we will incur increased accounting, audit, legal, regulatory, compliance, director and officer insurance costs as well as investor and public relations expenses associated with being a public company. Additionally, we anticipate incurring expenses related to the remediation

of material weaknesses in our internal control over financial reporting, which involve implementing new processes and engaging with a third-party firm.

	Six Months Ended June 30,		Change	% Change
	2024	2023		
General and administrative	\$ 8,030,773	\$ 6,347,395	\$ 1,683,378	26.5%
Total general and administrative expenses	\$ 8,030,773	\$ 6,347,395		

General and administrative expenses increased by \$1.7 million, or 26.5%, in the six months ended June 30, 2024 as compared to the six months ended June 30, 2023, primarily due to salaries and benefits (year-over-year increase of \$1.7 million, 72.3%), project consulting (year-over-year increase of \$0.1 million, 36.3%), offset by a decrease in other administrative support fees relating to IT, human resources, and insurance costs (year-over-year decrease of \$0.2 million, 29.8%). We anticipate that our general and administrative expenses will increase in the future as we increase our headcount to support our continued research activities and development of our product candidates. We also anticipate that we will incur increased accounting, audit, legal, regulatory, compliance, director and officer insurance costs as well as investor and public relations expenses associated with being a public company. Additionally, we anticipate incurring expenses related to the remediation of material weaknesses in our internal control over financial reporting, which involve implementing new processes and engaging with a third-party firm.

Non-operating Income

	Three Months Ended June 30,		Change	% Change
	2024	2023		
Changes in fair value of warrant liabilities	\$ 2,216,973	\$ (357,516)	\$ 2,574,489	(720.1)%
Other income	367,832	—	367,832	N/M
Total non-operating income	\$ 2,584,805	\$ (357,516)		

Total non-operating income increased by \$2.9 million, or 823.0% in the three months ended June 30, 2024 as compared to the three months ended June 30, 2023, primarily due to the change in fair value of warrant liabilities (year-over-year increase of \$2.6 million, 720.1%), and other income attributable to the Australian research and development tax credit (year-over-year increase of \$0.4 million).

	Six Months Ended June 30,		Change	% Change
	2024	2023		
Changes in fair value of warrant liabilities	\$ 7,685,192	\$ (274,930)	\$ 7,960,122	(2895.3)%
Other income	842,962	—	842,962	N/M
Total non-operating income	\$ 8,528,154	\$ (274,930)		

Total non-operating income increased by \$8.8 million, or 3201.9% in the six months ended June 30, 2024 as compared to the six months ended June 30, 2023, primarily due to the change in fair value of warrant liabilities (year-over-year increase of \$8.0 million, 2895.3%), and Australian research and development tax credit (year-over-year increase of \$0.8 million).

Interest Expense

	Three Months Ended June 30,		Change	% Change
	2024	2023		
Interest expense	\$ 93,119	\$ 75,320	\$ 17,799	23.6%
Total interest expense	\$ 93,119	\$ 75,320		

Interest expense in the three months ended June 30, 2024 was consistent with interest expense in the three months ended June 30, 2023, with the added interest expense on the 8% Unsecured Convertible Note in the current fiscal period offset by lower interest expenses associated with our finance leases in the same period of the prior year.

	Six Months Ended June 30,		Change	% Change
	2024	2023		
Interest expense	\$ 169,490	\$ 167,705	\$ 1,785	1.1%
Total interest expense	\$ 169,490	\$ 167,705		

Interest expense in the six months ended June 30, 2024 was consistent with interest expense in the six months ended June 30, 2023, with the added interest expense on the 8% Unsecured Convertible Note in the current fiscal period offset by lower interest expenses associated with our finance leases in the same period of the prior year.

Interest Income

	Three Months Ended June 30,		Change	% Change
	2024	2023		
Interest income	\$ 374,557	\$ 28,568	\$ 345,989	1211.1%
Total interest income	\$ 374,557	\$ 28,568		

Interest income increased by \$0.3 million, or 1211.1%, during the three months ended June 30, 2024 as compared to the three months ended June 30, 2023, primarily due to interest earned on our investments in debt securities, and higher interest earning cash, and cash equivalent balances.

	Six Months Ended June 30,		Change	% Change
	2024	2023		
Interest income	\$ 872,450	\$ 86,556	\$ 785,894	908.0%
Total interest income	\$ 872,450	\$ 86,556		

Interest income increased by \$0.8 million, or 908.0%, during the six months ended June 30, 2024 as compared to the six months ended June 30, 2023, primarily due to interest earned on our investments in debt securities, and higher interest earning cash, and cash equivalent balances.

Liquidity and Capital Resources

As of June 30, 2024 and December 31, 2023, we had \$37.3 million and \$56.6 million, respectively, of cash and cash equivalents and investments.

We intend to continue to invest in our business and, as a result, may incur operating losses in future periods. We expect to continue to invest in research and development efforts towards expanding our capabilities and expertise along our platform and the primary pipeline development targets we are working on, as well as building our business development team and marketing our solutions to partners in support of the growth of the business.

We anticipate that we will continue to generate losses for the foreseeable future, and we expect the losses to increase as we continue the development of, and seek regulatory approvals for, our product candidates, and begin commercialization of our products. As a result, we will require additional capital to fund our operations in order to support our long-term plans.

We have incurred operating losses for the past several years. While we intend to continue to keep operating expenses at a reduced level there can be no assurance that our current level of operating expenses will not increase or that other uses of cash will not be necessary. Based on our current level of operating expenses, existing resources will not be sufficient to cover operating cash needs through the twelve months following the date these financials are made available for issuance. We intend to seek additional capital through equity and/or debt financings, collaborative or other funding arrangements. Should we seek additional financing from outside sources, we may not be able to raise such financing on terms acceptable to us or at all. If we are unable to raise additional capital when required or on acceptable terms, we may be required to scale back or discontinue the advancement of product candidates, reduce headcount, liquidate our assets, file for bankruptcy, reorganize, merge with another entity, or cease operations.

Sources of Liquidity

Since our inception, we have financed our operations primarily from revenue in the form of government grants and from equity financings.

Notes payable

8% Unsecured Convertible Note

Pursuant to the fourth amendment to our lease with Sanford Health, we agreed to a period of abated rent (the "Abated Rent") from October 1, 2022 to September 30, 2023 pertaining to our leased laboratory bay at the Sanford Research Center. In exchange for the Abated Rent, effective as of October 1, 2022, we issued to Sanford Health an 8% unsecured, convertible promissory note (the "8% Unsecured Convertible Note").

Pursuant to the 8% Unsecured Convertible Note, we shall pay the sum of approximately \$542 thousand (the “Principal”) plus accrued and unpaid interest thereon on September 30, 2024 (the “Maturity Date”). Simple interest shall accrue on the outstanding Principal from and after the date of the 8% Unsecured Convertible Note and shall be payable on the Maturity Date. Sanford Health shall have the right, but not the obligation, to convert all or any part of the outstanding Principal of the 8% Unsecured Convertible Note, together with any accrued and unpaid interest thereon to the date of such conversion, into such number of fully paid and non-assessable shares of our common stock, at any time and from time to time, prior to the later of the Maturity Date and the date on which the 8% Unsecured Convertible Note is paid in full, subject to certain restrictions, at a conversion price per share of common stock equal to greater of (x) \$15.00 and (y) the price at which we sells shares of common stock in any bona fide private or public equity financing prior to the Maturity Date.

Insurance Financing

We obtained financing for certain Director & Officer liability insurance policy premiums. The agreement assigns First Insurance Funding (the “Lender”) a first priority lien on and security interest in the financed policies and any additional premium required in the financed policies including (a) all returned or unearned premiums, (b) all additional cash contributions or collateral amounts assessed by the insurance companies in relation to the financed policies and financed by Lender, (c) any credits generated by the financed policies, (d) dividend payments, and (e) loss payments which reduce unearned premiums. If any circumstances exist in which premiums related to any financed policy could become fully earned in the event of loss, Lender shall be named a loss-payee with respect to such policy.

The total premiums, taxes and fees financed is approximately \$765 thousand with an annual interest rate of 7.96%. In consideration of the premium payment by Lender to the insurance companies or the agent or broker, we unconditionally promise to pay Lender the amount financed plus interest and other charges permitted under the agreement. We paid the insurance financing through installment payments with the last payment for the current note being September 22, 2024. At June 30, 2024 and December 31, 2023, we recognized approximately \$74 thousand and \$509 thousand, respectively, as an insurance financing note payable in our condensed consolidated balance sheets.

Please refer to Note 9, *Notes Payable*, in our condensed consolidated unaudited financial statements for additional information on our debt.

Cash Flows

The following table summarizes our cash flows for the six months ended June 30, 2024 and 2023:

	Six Months Ended June 30,	
	2024	2023
Net cash used in operating activities	\$ (18,467,790)	\$ (6,504,873)
Net cash used in investing activities	(20,140,390)	(43,984)
Net cash used in financing activities	(715,457)	(723,578)
Effect of exchange rate changes on cash and cash equivalents	13	—
Net decrease in cash and cash equivalents	<u>\$ (39,323,624)</u>	<u>\$ (7,272,435)</u>

Operating Activities

Net cash used in operating activities increased by \$12.0 million in the six months ended June 30, 2024 as compared to the six months ended June 30, 2023, primarily due to an increase in cash used in operating activities related to change in our operating assets and liabilities of \$6.8 million and an increase in our net loss adjusted for non-cash items of \$5.2 million. Year-over-year changes in cash used by operating activities is explained by shifts in the non-cash working capital balances as we continue to invest in the development of our lead product candidate, SAB-142.

Investing Activities

Net cash used by investing activities increased by \$20.1 million in the six months ended June 30, 2024 as compared to the six months ended June 30, 2023, primarily due to an increase in purchases of investment securities.

Financing Activities

Net cash used by financing activities remained steady in the six months ended June 30, 2024 as compared to the six months ended June 30, 2023, primarily due a decrease in payments on financing agreements for our insurance agreements offset by an increase in payment for deferred issuance costs.

Contractual Obligations and Commitments

We enter into contracts in the normal course of business with third parties, including CROs. These payments are not included in the table above, as the amount and timing of such payments are not known.

As of June 30, 2024, there were no material changes outside of the ordinary course of business to our commitments and contractual obligations.

Income Taxes

Due to current and prior year losses the Company does not expect to have any Income Tax Provision.

We continue to record a valuation allowance on its net deferred tax assets. The valuation increased by approximately \$4.6 million during the six months ended June 30, 2024. We have not recognized any reserves for uncertain tax positions.

Going Concern

The accompanying unaudited condensed consolidated financial statements have been prepared assuming we will continue as a going concern, which contemplates continuity of operations, realization of assets and the satisfaction of liabilities and commitments in the normal course of business. We have experienced net losses, negative cash flows from operations and, as of June 30, 2024, and had an accumulated deficit of \$102.4 million. We anticipate we will continue to generate losses for the foreseeable future and expect the losses to increase as we continue the development of, or seek regulatory approvals for, product candidates, and begin commercialization of products. As a result, we will require additional capital to fund operations in order to support our long-term plans.

We will need to raise additional capital to fund our operations, continue to execute our strategy, and continue as a going concern. In the future, we may seek additional funding through a combination of equity or debt financings, or other third-party financing, collaborative, or other funding arrangements. Should we seek additional financing from outside sources, we may not be able to raise such financing on terms acceptable to us or at all. If we are unable to raise additional capital when required or on acceptable terms, we may be required to scale back or discontinue the advancement of product candidates, reduce headcount, liquidate assets, file for bankruptcy, reorganize, merge with another entity, or cease operations.

We currently expect that our cash, cash equivalents, and short-term investments of \$37.2 million as of June 30, 2024 will not be sufficient to fund our operating expenses and capital requirements for more than 12 months from the date the financial statements are issued. These conditions raise substantial doubt about our ability to continue as a going concern.

Off-Balance Sheet Arrangements

We did not have, for the periods presented, and we do not currently have, any off-balance sheet financing arrangements or any relationships with unconsolidated entities or financial partnerships, including entities sometimes referred to as structured finance or special purpose entities, that were established for the purpose of facilitating off-balance sheet arrangements or other contractually narrow or limited purposes.

Critical Accounting Policies and Estimates

We have prepared our condensed consolidated financial statements in accordance with U.S. GAAP. Our preparation of these condensed consolidated financial statements requires us to make estimates, assumptions and judgments that affect the reported amounts of assets, liabilities, revenue, expenses, and related disclosures. We evaluate our estimates and judgments on an ongoing basis. We base our estimates on historical experience and on various other factors that we believe are reasonable under the circumstances, the results of which form the basis for making judgments about the carrying value of assets and liabilities that are not readily apparent from other sources. Actual results could therefore differ materially from these estimates under different assumptions or conditions.

While our significant accounting policies are described in more detail in Note 2, *Summary of Significant Accounting Policies*, in our condensed consolidated financial statements we believe the following accounting policies to be critical to the judgments and estimates used in the preparation of our condensed consolidated financial statements.

Cash, cash equivalents, and restricted cash

Cash and cash equivalents are comprised of cash and highly liquid investments with original maturities of 90 days or less at the date of purchase. Cash equivalents consist primarily of exchange-traded money market funds.

The Company is exposed to credit risk in the event of default by the financial institutions or the issuers of these investments to the extent the amounts on deposit or invested are in excess of amounts that are insured.

Short-term investments

We account for our short-term investments in accordance with Accounting Standard Codification (ASC) Topic 320, Investments - Debt and Equity Securities. Our management determines the appropriate classification of our investments at the time of purchase and reevaluates such determinations at each reporting period.

As of June 30, 2024, our short-term investments consisted of U.S. treasury securities with original maturity exceeding 90 days and investments in exchange-traded mutual funds. We classify these securities as both current and non-current depending on their time to maturity. We consider all of our securities for which there is a determinable fair market value, and there are no restrictions on our ability to sell within the next twelve months, as available-for-sale securities.

We recognize the change in fair value of available-for-sale equity securities within other income in the condensed consolidated statement of operations and comprehensive loss, and available-for-sale debt securities are measured at fair value with unrealized gains and losses reported in accumulated other comprehensive income (loss) in the condensed consolidated statement of operations and comprehensive loss.

We review our investments at each reporting date to identify and evaluate whether a decline in fair value below the amortized cost basis of available-for-sale debt securities is due to credit-related factors and determine if such unrealized losses are the result of credit losses that require impairment. Factors considered in determining whether an unrealized loss is the result of a credit loss or other factors include the extent to which the fair value is less than the cost basis, any changes to the rating of the security by a rating agency, the financial condition and near-term prospects of the issuer, any historical failure of the issuer to make scheduled interest or principal payments, any adverse legal or regulatory events affecting the issuer or issuer's industry, any significant deterioration in economic condition and our intent and ability to hold the investment for a period of time sufficient to allow for any anticipated recovery in market value.

We did not recognize any credit losses on our short-term investments during the six months ended June 30, 2024 and 2023.

Research and development expenses

Expenses incurred in connection with research and development activities are expensed as incurred. These include licensing fees to use certain technology in our research and development projects, fees paid to consultants and various entities that perform certain research and testing on our behalf, and expenses related to animal care, research-use equipment depreciation, salaries, benefits, and stock-based compensation granted to employees in research and development functions.

During the three and six months ended June 30, 2024 and 2023, we had contracts with multiple contract research organizations ("CRO") to complete studies as part of research grant agreements. These costs include upfront, milestone and monthly expenses as well as reimbursement for pass through costs. All research and development costs are expensed as incurred except when we are accounting for nonrefundable advance payments for goods or services to be used in future research and development activities. In these cases, these payments are capitalized at the time of payment and expensed in the period the research and development activity is performed. As actual costs become known, we will adjust the accrual; such changes in estimate may be a material change in our clinical study accrual, which could also materially affect reported results of operations. For the three and six months ended June 30, 2024 and 2023, there were no material adjustments to our prior period estimates of accrued expenses for clinical trials.

Revenue Recognition

Our revenue is generated through grants from government and other (non-government) organizations.

Grant revenue is recognized during the period that the research and development services occur, as qualifying expenses are incurred, or conditions of the grants are met. Deferred grant income represents grant proceeds received by us prior to the period in which the research and development services occur, as qualifying expenses are incurred, or conditions of the grants are met. We concluded that payments received under these grants represent conditional, nonreciprocal contributions, as described in ASC 958, *Not-for-Profit Entities*, and that the grants are not within the scope of ASC 606, *Revenue from Contracts with Customers*, as the organizations providing the grants do not meet the definition of a customer. Expenses for grants are tracked by using a project code specific to the grant, and the employees also track hours worked by using the project code.

Stock-based compensation

FASB ASC Topic 718, *Compensation—Stock Compensation*, prescribes accounting and reporting standards for all share-based payment transactions in which employee and non-employee services are acquired. We recognize compensation cost relating to

stock-based payment transactions using a fair-value measurement method, which requires all stock-based payments to employees, directors, and non-employee consultants, including grants of stock options, to be recognized in operating results as compensation expense based on fair value over the requisite service period of the awards. We determine the fair value of common stock based on the closing market price at closing on the date of the grant.

In determining the fair value of stock-based awards, we utilize the Black-Scholes option-pricing model, which uses both historical and current market data to estimate fair value. The Black-Scholes option-pricing model incorporates various assumptions, such as the value of the underlying common stock, the risk-free interest rate, expected volatility, expected dividend yield, and expected life of the options. For awards with performance-based vesting criteria, we estimate the probability of achievement of the performance criteria and recognizes compensation expense related to those awards expected to vest. No awards may have a term in excess of ten years. Forfeitures are recorded when they occur. Stock-based compensation expense is classified in the condensed consolidated statements of operations based on the function to which the related services are provided. We recognize stock-based compensation expense over the vesting period.

See Note 11, *Stock Option Plans*, in our condensed consolidated financial statements for information concerning certain specific assumptions we used in applying the Black-Scholes option pricing model to determine the estimated fair value of our stock options granted for the three and six months ended June 30, 2024 and 2023.

Deferred Issuance Costs

The Company capitalizes certain legal, professional accounting and other third-party fees that are directly associated with in-process equity financings as deferred issuance costs until such financings are consummated. After consummation of the equity financing, these costs are recorded in shareholders' equity as a reduction of additional paid-in capital generated as a result of the issuance.

As of June 30, 2024, the Company had \$236 thousand in deferred issuance costs related to the Company's sales agreement with Cantor Fitzgerald & Co. The sales agreement is discussed further in Note 10, *Stockholders' Equity*. The Company had no deferred issuance costs as of December 31, 2023.

Foreign Currency Translations and Transactions

Assets and liabilities of the Company's foreign subsidiary are translated at the year-end exchange rate. Operating results of the Company's foreign subsidiary are translated at average exchange rates during the period. Translation adjustments have no effect on net loss and are included in "Accumulated other comprehensive income (loss), net" in the accompanying Condensed Consolidated Balance Sheets.

Warrant Liabilities Valuations

Liability Classified Warrants

We are required to periodically estimate the fair value of our Private Placement Warrant liabilities with the assistance of an independent third-party valuation firm. The assumptions underlying these valuations represented our best estimates, which involved inherent uncertainties and the application of significant levels of our judgment. The fair value of our Public Warrant liability is determined by reference to the quoted market price.

The warrants are accounted for as liabilities in accordance with ASC 815-40, *Derivatives and Hedging—Contracts in Entity's Own Equity*, and were presented within warrant liabilities on the condensed consolidated balance sheets as of June 30, 2024 and December 31, 2023. The initial fair value of the warrant liabilities were measured at fair value on the closing date of our business combination, and changes in the fair value of the warrant liabilities were presented within changes in fair value of warrant liabilities in the condensed consolidated statements of operations for the three and six months ended June 30, 2024 and 2023.

Public Warrants and Private Placement Warrants

The fair value of the private placement warrants held by assignees of Big Cypress Holdings, LLC (the "Private Placement Warrants") was determined utilizing both the Black-Scholes Merton formula and a MCS analysis. Specifically, we considered a MCS to derive the implied volatility in the publicly listed price of the public warrants issued in connection with the closing of our initial public offering (the "Public Warrants"). We then considered this implied volatility in selecting the volatility for the application of a Black-Scholes Merton model for the Private Placement Warrants. We determined the fair value of the Public Warrants by reference to the quoted market price.

The Public Warrants were classified as a Level 1 fair value measurement, due to the use of the quoted market price, and the Private Placement Warrants held privately by assignees of Big Cypress Holdings LLC, were classified as a Level 3 fair value measurement, due to the use of unobservable inputs. See Note 12, *Warrants*, for further information regarding the Public Warrants and Private Placement Warrants.

The measurement as of June 30, 2024 and December 31, 2023 for the Private Placement Warrant liability was approximately \$11 thousand and \$6 thousand, respectively, and the change in fair value of the Private Placement Warrant liability was approximately \$5 thousand for the six months ended June 30, 2024.

September 2023 Purchase Agreement Warrants

We established fair value of the preferred warrants (the “Preferred Warrants”) issued in connection with the September 2023 private placement offering of Company securities (the “September 2023 Offering”) utilizing the Black-Scholes Merton formula. All tranches of the Preferred Warrants were classified as Level 3 fair value measurements, due to unobservable inputs. See Note 12, *Warrants*, for further information regarding the Preferred Warrants.

The measurement as of June 30, 2024 and the measurement as of December 31, 2023 for the Preferred Warrant liability was approximately \$3.8 million and \$11.6 million, respectively. The change in fair value of the Preferred Warrant liability was approximately \$7.8 million for the six months ended June 30, 2024.

Equity Classified Warrants

PIPE Warrants and PIPE Placement Agent Warrants

In December 2022, as a part of our December 2022 private placement (the “December 2022 Private Placement”), we issued warrants (the “PIPE Warrants”) to investors to purchase up to 736,337 shares of common stock. The PIPE Warrants, including those purchased by the participating directors of SAB are exercisable beginning six months from the date of issuance at an exercise price equal to \$10.80 per share, and are exercisable for five years from the date of issuance. We also issued our placement agent, Brookline Capital Markets, warrants (the “PIPE Placement Agent Warrants”) to purchase up to an aggregate of 21,091 shares of common stock. The PIPE Placement Agent Warrants have an exercise price equal to \$13.50 per share and are exercisable six months from the date of issuance and expires five years from the date of issuance.

2023 Ladenburg Agreement Warrants

On March 21, 2023, we entered into a settlement agreement with Ladenburg Thalmann & Co. Inc. (“Ladenburg”), effective March 23, 2023 (the “2023 Ladenburg Agreement”). In connection with the 2023 Ladenburg Agreement, on March 24, 2023, we issued to Ladenburg a warrant (the “Ladenburg Warrants”) to purchase up to 30,000 shares of common stock, exercisable for three years from the date of issuance at \$5.424 per share.

Preferred PIPE Placement Agent Warrants

On November 21, 2023 we issued to Chardan Capital Markets LLC, the placement agent for the September 2023 Offering, a warrant to purchase 850,119 shares (as adjusted following the 1 for 10 Reverse Stock Split, effective January 5, 2024) of our common stock (“the Preferred PIPE Placement Agent Warrants”). The Preferred PIPE Placement Agent Warrants have an exercise price equal to \$6.30 per share (subject to adjustment for stock dividends and splits) and are exercisable in whole or in part, at any time or times on or after the issuance date and on or before October 2, 2028. The Preferred PIPE Placement Agent Warrant was classified in equity in additional paid-in capital.

We determined the Ladenburg Warrants, PIPE Warrants, PIPE Placement Agent Warrants, and Preferred PIPE Placement Agent Warrant met all necessary criteria to be accounted for as equity in accordance with ASC 815-40, *Derivatives and Hedging—Contracts in Entity’s Own Equity*. As such, they are presented within additional paid-in capital within our condensed consolidated statements of changes in stockholders’ equity and condensed consolidated balance sheets.

Warrants classified as equity are initially measured at fair value. Subsequent changes in fair value are not recognized as long as the warrants continue to be classified as equity. See Note 12, *Warrants*, for further information regarding warrants classified as equity in our condensed consolidated financial statements.

Common Stock Valuations

Prior to becoming a public company, we were required to periodically estimate the fair value of our common stock with the assistance of an independent third-party valuation firm, as discussed above, when issuing stock options and computing our estimated stock-based compensation expense. The assumptions underlying these valuations represented our best estimates, which involved inherent uncertainties and the application of significant levels of our judgment. In order to determine the fair value of our common stock, we considered, among other items, previous transactions involving the sale of our securities, our business, financial condition and results of operations, economic and industry trends, the market performance of comparable publicly traded companies, and the lack of marketability of our common stock.

We determine the fair value of our common stock based on the closing market price at closing on the date of grant.

Compensation expense related to stock-based transactions is measured and recognized in the financial statements at fair value of our post-merger common stock based on the closing market price at closing on the date of grant. Stock-based compensation expense is measured at the grant date based on the fair value of the equity award and is recognized as expense over the requisite service period, which is generally the vesting period, on the straight-line method. We estimate the fair value of each stock option award on the date of grant using the Black-Scholes option-pricing model. Determining the fair value of stock option awards at the grant date requires judgment, including estimating the expected volatility, expected term, risk-free interest rate, and expected dividends.

Lease Liabilities and Right-of-Use Assets

We are party to certain contractual arrangements for equipment, lab space, and an animal facility, which meet the definition of leases under ASC 842. In accordance with ASC 842, we, as of January 1, 2018 (the date of adoption), recorded right-of-use assets and related lease liabilities for the present value of the lease payments over the lease terms. We utilized the practical expedient regarding lease and non-lease components and have combined such items into a single combined component. Our incremental borrowing rate was used in the calculation of our right-of-use assets and lease liabilities.

Recently Issued Accounting Pronouncements

A description of recently issued accounting pronouncements that may potentially impact our financial position and results of operations is disclosed in Note 3, *New Accounting Standards*, in our condensed consolidated financial statements.

JOBS Act Accounting Election

We qualify as an “emerging growth company” as defined in the JOBS Act. An emerging growth company may take advantage of reduced reporting requirements that are not otherwise applicable to public companies. These provisions include, but are not limited to:

- being permitted to present only two years of audited financial statements and only two years of related Management’s Discussion and Analysis of Financial Condition and Results of Operations in this Form 10-Q;
- not being required to comply with the auditor attestation requirements on the effectiveness of our internal controls over financial reporting;
- not being required to comply with any requirement that may be adopted by the PCAOB regarding mandatory audit firm rotation or a supplement to the auditor’s report providing additional information about the audit and the financial statements (auditor discussion and analysis);
- reduced disclosure obligations regarding executive compensation arrangements; and
- exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We may use these provisions until the last day of our fiscal year in which the fifth anniversary of the completion of our initial public offering occurred. However, if certain events occur prior to the end of such five-year period, including if we become a “large accelerated filer,” our annual gross revenue exceeds \$1.235 billion, or we issue more than \$1.0 billion of non-convertible debt in any three-year period, we will cease to be an emerging growth company prior to the end of such five-year period.

We have elected to take advantage of certain of the reduced disclosure obligations in this Form 10-Q and may elect to take advantage of other reduced reporting requirements in future filings. As a result, the information that we provide to our shareholders may be different than the information you receive from other public companies in which you hold stock.

The JOBS Act provides that an emerging growth company can take advantage of an extended transition period for complying with new or revised accounting standards, until those standards apply to private companies. We have elected to take advantage of the benefits of this extended transition period and, therefore, we will not be subject to the same new or revised accounting standards as other public companies that are not emerging growth companies. Our financial statements may therefore not be comparable to those of companies that comply with such new or revised accounting standards. Until the date that we are no longer an emerging growth company or affirmatively and irrevocably opt out of the exemption provided by Section 7(a)(2)(B) of the Securities Act upon issuance of a new or revised accounting standard that applies to our financial statements and that has a different effective date for public and private companies, we will disclose the date on which we will adopt the recently issued accounting standard.

Item 3. Quantitative and Qualitative Disclosures About Market Risk.

Concentration of Credit Risk

We received 100% of our total revenue through grants from government organizations for the three and six months ended June 30, 2024 and 2023, respectively. To date, no receivables have been written off.

Interest Rate Risk

As of June 30, 2024 and December 31, 2023, we had cash, cash equivalents, U.S. treasury securities, investments in exchange traded mutual funds, and money market funds of \$37.3 million and \$56.6 million, respectively, all of which was maintained in bank accounts, money market funds, and U.S. treasury securities. Our primary exposure to market risk is to interest income volatility, which is affected by changes in the general level of interest rates. A 10% change in the market interest rates would not have a material effect on our business, financial condition, or results of operations.

Foreign Currency Risk

We conduct materially all of our business in U.S. dollars. We do not have any foreign currency or other derivative financial instruments. Our primary exposure to changes in foreign currency exchange rates relates mainly to SAB Australia. We do not currently hedge our foreign currency exchange rate risk. As of June 30, 2024 and December 31, 2023, our liabilities denominated in foreign currencies were not material. Accordingly, we do not believe a 10% increase or decrease in current exchange rates would have a material effect on our financial results.

Item 4. Controls and Procedures.

Evaluation of Disclosure Controls and Procedures

Our management, with the participation of our Chief Executive Officer and Chief Financial Officer has evaluated the effectiveness of our disclosure controls and procedures. The term “disclosure controls and procedures,” as defined in Rules 13a-15(e) and 15d-15(e) under the Exchange Act, means controls and other procedures of a company that are designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is recorded, processed, summarized and reported, within the time periods specified in the SEC’s rules and forms. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by a company in the reports that it files or submits under the Exchange Act is accumulated and communicated to the Company’s management, including its principal executive and principal financial officers, as appropriate to allow timely decisions regarding required disclosure.

Management recognizes that any controls and procedures, no matter how well designed and operated, can provide only reasonable assurance of achieving their objectives and management necessarily applies its judgment in evaluating the cost benefit relationship of possible controls and procedures. Based on the evaluation as of June 30, 2024, our Chief Executive Officer and Chief Financial Officer have concluded that the Company’s disclosure controls and procedures were not effective as of June 30, 2024. Management has concluded that there is a material weakness in the design and operating effectiveness of the Company’s control environment surrounding insufficient documentation of the formalized processes and procedures that are critical to the accomplishment of financial reporting objectives.

Plan for Remediation of Material Weakness

We continue to work to strengthen our internal control over financial reporting and are committed to ensuring that such controls are designed and operating effectively. We are implementing process and control improvements to address the above material weakness as follows:

- We have engaged with a third party firm to perform a complete risk assessment and provide advisory services for our required documented control attributes and necessary remediation efforts.
- We will soon complete the process of implementing a contract management platform that will integrate functions governing the initiation, authorization, and execution of contracts with enhancements for our existing contract review control. This tool will improve the ability of the finance organization to review new and renewed contracts for potential financial reporting implications.

We are committed to continuing to improve our internal control processes related to these matters and will continue to review our financial reporting controls and procedures. As we continue to evaluate and work to improve our internal control over financial reporting, we may take additional measures to address deficiencies or modify certain of the remediation measures described above.

Changes in Internal Control Over Financial Reporting

There were no changes, except for the remediation effort described above, in our internal control over financial reporting that occurred during the six months ended June 30, 2024, that have materially affected, or are reasonably likely to materially affect, our internal control over financial reporting.

PART II—OTHER INFORMATION

Item 1. Legal Proceedings.

We are not currently a party to any material litigation, nor are we aware of any pending or threatened litigation against us that we believe would materially affect our business, operating results, financial condition, or cash flows. Participants in our industry face frequent claims and litigation, including securities litigation, claims regarding patent and other intellectual property rights, and other liability claims. As a result, we may be involved in various legal proceedings from time to time in the future.

Item 1A. Risk Factors.

Our business is subject to various risks, including those described in Item 1A of our Annual Report on Form 10-K for the fiscal year ended December 31, 2023, filed with the SEC on March 29, 2024, which we strongly encourage you to review (the “2023 Annual Report”). There have been no material changes from the risk factors described in our 2023 Annual Report.

Item 2. Unregistered Sales of Equity Securities and Use of Proceeds.

None.

Item 3. Defaults Upon Senior Securities.

None.

Item 4. Mine Safety Disclosures.

Not Applicable.

Item 5. Other Information.

Not Applicable.

Item 6. Exhibits.

Exhibit Number	Description	Schedule/ Form	File No.	Exhibit	Filing Date
10.1¥	Employment Agreement between SAB Biotherapeutics, Inc. and Mark Conley dated November 6, 2023	8-K	001-39871	10.1	May 31, 2024
10.2¥*	2021 Omnibus Equity Incentive Plan, as amended				
31.1*	Certification of Principal Executive Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
31.2*	Certification of Principal Financial Officer Pursuant to Rules 13a-14(a) and 15d-14(a) under the Securities Exchange Act of 1934, as Adopted Pursuant to Section 302 of the Sarbanes-Oxley Act of 2002.				
32.1*	Certification of Principal Executive Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
32.2*	Certification of Principal Financial Officer Pursuant to 18 U.S.C. Section 1350, as Adopted Pursuant to Section 906 of the Sarbanes-Oxley Act of 2002.				
101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document.				
101.SCH	Inline XBRL Taxonomy Extension Schema Document				
101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document				
101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document				
101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document				
101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document				
104	Cover Page Interactive Data File (embedded within the Inline XBRL document)				

* Filed herewith.

¥ Denotes management contract or any compensatory plan, contract or arrangement.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, as amended, the Registrant has duly caused this Report to be signed on its behalf by the undersigned, thereunto duly authorized.

SAB BIOTHERAPEUTICS, INC.

Date: August 8, 2024

By: _____
/s/ Samuel J. Reich
Samuel J. Reich
Chair and Chief Executive Officer
(Principal Executive Officer)

By: _____
/s/ Mark Conley
Mark Conley
Interim Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

SAB BIOTHERAPEUTICS, INC.
2021 OMNIBUS EQUITY INCENTIVE PLAN, AS AMENDED
(Amended June 27, 2024)

ARTICLE 1
EFFECTIVE DATE, OBJECTIVES AND DURATION

1.1 Effective Date of the Plan. The Board of Directors of SAB Biotherapeutics, Inc., a Delaware corporation (the “Company”) originally adopted the SAB Biotherapeutics, Inc. 2021 Omnibus Equity Incentive Plan (the “Plan”) effective as of October 22, 2021. The most recent amendment of the Plan was adopted by the Board on June 27, 2024 (the “Effective Date”), subject to and conditioned upon approval by the Company’s stockholders.

1.2 Objectives of the Plan. The Plan is intended (a) to allow Service Providers to acquire or increase equity ownership in the Company, thereby strengthening their commitment to the success of the Company and stimulating their efforts on behalf of the Company, and to assist the Company and its Affiliates in attracting new Service Providers and retaining existing Service Providers, (b) to optimize the profitability and growth of the Company and its Affiliates through incentives which are consistent with the Company’s goals, (d) to provide Grantees with an incentive for excellence in individual performance, (e) to promote teamwork among Service Providers, and (f) to attract and retain highly qualified persons to serve as Non-Employee Directors and to promote ownership by such Non-Employee Directors of a greater proprietary interest in the Company, thereby aligning such Non-Employee Directors’ interests more closely with the interests of the Company’s stockholders.

1.3 Duration of the Plan. The Plan shall commence on the Effective Date and shall remain in effect, subject to the right of the Board to amend or terminate the Plan at any time pursuant to ARTICLE 15 hereof, until the earlier of the tenth anniversary of the Effective Date, or the date all Shares subject to the Plan shall have been purchased or acquired and the restrictions on all Restricted Shares granted under the Plan shall have lapsed, according to the Plan’s provisions.

ARTICLE 2
DEFINITIONS

Whenever used in the Plan, the following terms shall have the meanings set forth below:

2.1 “\$100,000 Limit” shall have the meaning set forth in Section 6.4(d).

2.2 “Acquired Entity” shall have the meaning set forth in Section 5.6(b).

2.3 “Acquired Entity Awards” shall have the meaning set forth in Section 5.6(b).

2.4 “Affiliate” means any corporation or other entity, including but not limited to partnerships, limited liability companies and joint ventures, with respect to which the Company, directly or indirectly, owns as applicable (a) stock possessing more than fifty percent (50%) of the total combined voting power of all classes of stock entitled to vote, or more than fifty percent (50%) of the total value of all shares of all classes of stock of such corporation, or (b) an aggregate of more than fifty percent (50%) of the profits interest or capital interest of a non-corporate entity.

2.5 “Applicable Laws” means the requirements relating to the administration of equity incentive plans under U.S. federal and state securities, tax and other Applicable Laws, rules and regulations, the applicable rules of any stock exchange or quotation system on which the Common Stock is listed or quoted and the Applicable Laws and rules of any foreign country or other jurisdiction where Awards are granted.

2.6 “Award” means Options (including non-qualified options and Incentive Stock Options), SARs, Restricted Shares, Performance Units (which may be paid in cash), Performance Shares, Deferred Stock, Restricted Stock Units, Dividend Equivalents, Bonus Shares or Other Stock-Based Awards granted under the Plan.

2.7 “Award Agreement” means either (a) a written agreement entered into by the Company and a Grantee setting forth the terms and provisions applicable to an Award granted under this Plan, or (b) a written statement issued by the Company to a Grantee describing the terms and provisions of such Award, including any amendment or modification thereof. The Committee may provide for the use of electronic, internet or other non-paper Award Agreements and the use of electronic, internet or other non-paper means for the acceptance thereof and actions thereunder by the Grantee.

2.8 “Board” means the Board of Directors of the Company.

2.9 “Bonus Shares” means Shares that are awarded to a Grantee with or without cost and without restrictions either in recognition of past performance (whether determined by reference to another employee benefit plan of the Company or otherwise), as an inducement to become an Eligible Person or, with the consent of the Grantee, as payment in lieu of any cash remuneration otherwise payable to the Grantee.

2.10 “Cause” means, except as otherwise defined in an Award Agreement:

(a) the commission of any act by a Grantee constituting a felony or crime of moral turpitude (or their equivalent in a non-United States jurisdiction);

(b) an act of dishonesty, fraud, intentional misrepresentation, or harassment which, as determined in good faith by the Committee, would: (i) materially adversely affect the business or the reputation of the Company or any of its Affiliates with their respective current or prospective customers, suppliers, lenders and/or other third parties with whom such entity does or might do business; or (ii) expose the Company or any of its Affiliates to a risk of civil or criminal legal damages, liabilities or penalties;

(c) any material misconduct in violation of the Company’s or an Affiliate’s written policies; or

(d) willful and deliberate non-performance of the Grantee’s duties in connection with the business affairs of the Company or its Affiliates;

provided, however; that if the Grantee has a written employment or consulting agreement with the Company or any of its Affiliates or participates in any severance plan established by the Company that includes a definition of “cause,” Cause shall have the meaning set forth in such employment or consulting agreement or severance plan.

2.11 “Change in Control” shall have the meaning set forth in Section 16.4(e).

2.12 “Code” means the Internal Revenue Code of 1986, as amended from time to time. References to a particular section of the Code include references to regulations and rulings thereunder and to successor provisions.

2.13 “Committee” means one or more committees or subcommittees of the Board, which may include one or more Company directors or executive officers, to the extent Applicable Laws permit. To the extent required to comply with the provisions of Rule 16b-3, it is intended that each member of the Committee will be, at the time the Committee takes any action with respect to an Award that is subject to Rule 16b-3, a “non-employee director” within the meaning of Rule 16b-3; however, a Committee member’s failure to qualify as a “non-employee director” within the meaning of Rule 16b-3 will not invalidate any Award granted by the Committee that is otherwise validly granted under the Plan.

2.14 “Common Stock” means the common stock, \$0.001 par value, of the Company.

2.15 “Company” means SAB Biotherapeutics, Inc., a Delaware company.

2.16 “Consultant” means any consultant or advisor, engaged by the Company or any Subsidiary of the Company to render services to such entity, who qualifies as a consultant or advisor under the applicable rules of Form S-8 Registration Statement.

2.17 “Corporate Transaction” shall have the meaning set forth in Section 4.2(b).

2.18 “Current Grant” shall have the meaning set forth in Section 6.4(d).

2.19 “Deferred Stock” means a right, granted under ARTICLE 10, to receive Shares at the end of a specified deferral period.

2.20 “Director” means a Board member.

2.21 “Disability” or “Disabled” means, unless otherwise defined in an Award Agreement, or as otherwise determined under procedures established by the Committee for purposes of the Plan:

(a) Except as provided in (b) below, a disability within the meaning of Section 22(e)(3) of the Code; and

(b) In the case of any Award that constitutes deferred compensation within the meaning of Section 409A of the Code, a disability as defined in regulations under Code Section 409A. For purpose of Code Section 409A, a Grantee will be considered Disabled if:

(i) the Grantee is unable to engage in any substantial gainful activity by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than twelve (12) months, or

(ii) the Grantee is, by reason of any medically determinable physical or mental impairment which can be expected to result in death or can be expected to last for a continuous period of not less than twelve (12) months, receiving income replacement benefits for a period of not less than three (3) months under an accident and health plan covering employees of the Grantee’s employer.

2.22 “Disqualifying Disposition” shall have the meaning set forth in Section 6.4(f).

2.23 “Dividend Equivalent” means a right to receive payments equal to dividends or property, if and when paid or distributed, on a specified number of Shares.

2.24 “Effective Date” has the meaning set forth in Section 1.1.

2.25 “Eligible Person” means any Service Provider; provided, however, that solely with respect to the grant of an Incentive Stock Option, an Eligible Person shall be any Employee. Notwithstanding the foregoing, an Eligible Person shall also include an individual who is expected to become a Service Provider within a reasonable period of time after the grant of an Award (other than an Incentive Stock Option); provided that any Award granted to any such individual shall be automatically terminated and cancelled without consideration if the individual does not become a Service Provider within twelve (12) months after the Grant Date. Solely for purposes of Section 5.6(b), current or former employees or non-employee directors of, or consultants to, of an Acquired Entity who receive Substitute Awards in substitution for Acquired Entity Awards shall be considered Eligible Persons under this Plan with respect to such Substitute Awards.

2.26 “Employee” means any employee of the Company or any Subsidiary of the Company.

2.27 “Exchange Act” means the Securities Exchange Act of 1934, as amended from time to time. References to a particular section of the Exchange Act include references to successor provisions.

2.28 “Exercise Price” means (a) with respect to an Option, the price at which a Share may be purchased by a Grantee pursuant to such Option or (b) with respect to an SAR, the price established at the time an SAR is granted pursuant to ARTICLE 7, which is used to determine the amount, if any, of the payment due to a Grantee upon exercise of the SAR.

2.29 “Fair Market Value” means, as of any date, unless otherwise specifically provided in an Award Agreement, the value of Shares determined as follows:

(a) If the Shares are listed on one or more established and regulated securities exchanges, national market systems or automated quotation systems on which Shares are listed, quoted or traded, Fair Market Value means a price that is based on the opening, closing, actual, high, low, or the arithmetic mean of selling prices of a Share reported on the principal exchange or system on which the Shares are traded on the applicable date or the preceding trading day.

(b) If the Shares are traded over the counter at the time a determination of Fair Market Value is required to be made hereunder, Fair Market Value shall be deemed to be equal to the arithmetic mean between the reported high and low or closing bid and asked prices of a Share on the applicable date, or if no such trades were made that day then the most recent date on which Shares were publicly traded.

(c) In the event Shares are not publicly traded at the time a determination of their value is required to be made hereunder, the determination of their Fair Market Value shall be made by the Committee in such manner as it deems appropriate provided such manner is consistent with Treasury Regulation Section 1.409A-1(b)(5)(iv)(B).

2.30 “FICA” shall have the meaning set forth in Section 17.1(a).

2.31 “Grant Date” means the date on which an Award is granted or such later date as specified in advance by the Committee.

2.32 “Grantee” means a person who has been granted an Award.

2.33 “Incentive Stock Option” means an Option that is intended to meet the requirements of Section 422 of the Code.

2.34 “Including” or “includes” means “including, without limitation,” or “includes, without limitation,” respectively.

2.35 “Non-Employee Director” means a member of the Board who is not an Employee.

2.36 “Option” means an option granted under ARTICLE 6 of the Plan.

2.37 “Other Plans” shall have the meaning set forth in Section 6.4(d).

2.38 “Other Stock-Based Award” means a right, granted under Article 13 hereof, that relates to or is valued by reference to Shares or other Awards relating to Shares.

2.39 “Performance Period” means, with respect to an Award of Performance Shares or Performance Units, the period of time during which the performance vesting conditions applicable to such Award must be satisfied.

2.40 “Performance Share” and “Performance Unit” have the respective meanings set forth in ARTICLE 9.

2.41 “Period of Restriction” means the period during which Restricted Shares are subject to forfeiture if the conditions specified in the Award Agreement are not satisfied.

2.42 “Person” means any individual, sole proprietorship, partnership, joint venture, limited liability company, trust, unincorporated organization, association, corporation, institution, public benefit corporation, entity or government instrumentality, division, agency, body or department.

2.43 “QDRO” has the meaning set forth in Section 5.4(a).

2.44 “Restricted Shares” means Shares, granted under ARTICLE 8, that are both subject to forfeiture and are nontransferable if the Grantee does not satisfy the conditions specified in the Award Agreement applicable to such Shares.

2.45 “Restricted Stock Units” are rights, granted under ARTICLE 10, to receive Shares if the Grantee satisfies the conditions specified in the Award Agreement applicable to such rights.

2.46 “Returned Shares” has the meaning set forth in Section 4.1(c).

2.47 “Rule 16b-3” means Rule 16b-3 promulgated by the SEC under the Exchange Act, as amended from time to time, together with any successor rule.

2.48 “SEC” means the United States Securities and Exchange Commission, or any successor thereto.

2.49 “Section 16 Person” means a person who is subject to potential liability under Section 16(b) of the Exchange Act with respect to transactions involving equity securities of the Company.

2.50 “Separation from Service” means, with respect to any Award that constitutes deferred compensation within the meaning of Code Section 409A, a “separation from service” as defined in Treasury Regulation Section 1.409A-1(h). For this purpose, a “separation from service” is deemed to occur on the date that the Company and the Grantee reasonably anticipate that the level of bona fide services the Grantee would perform for the Company and/or any Affiliates after that date as a Service Provider would permanently decrease to a level that, based on the facts and circumstances, would constitute a separation from service; provided that a decrease to a level that is 50% or more of the average level of bona fide services provided over the prior 36 months shall not be a separation from service, and a decrease to a level that is 20% or less of the average level of such bona fide services shall be a separation from service.

The Committee retains the right and discretion to specify, and may specify, whether a separation from service occurs with respect to those individuals who are performing services for the Company or an Affiliate immediately prior to an asset purchase transaction in which the Company or an Affiliate is the seller and who continue to perform services for the buyer (or an Affiliate thereof) immediately following such asset purchase transaction; provided, such specification is made in accordance with the requirements of Treasury Regulation Section 1.409A-1(h)(4).

2.51 “Service Provider” means an Employee, Consultant or Director.

2.52 “Share” means a share of Common Stock, and such other securities of the Company, as may be substituted or resubstituted for Shares pursuant to Section 4.2 hereof.

2.53 “Stock Appreciation Right” or “SAR” means an Award granted under ARTICLE 7 of the Plan.

2.54 “Subsidiary” means any entity (other than the Company), whether domestic or foreign, in an unbroken chain of entities beginning with the Company if each of the entities other than the last entity in the unbroken chain beneficially owns, at the time of the determination, securities or interests representing at least 50% of the total combined voting power of all classes of securities or interests in one of the other entities in such chain.

2.55 “Substitute Awards” shall have the meaning set forth in Section 5.6(b).

2.56 “Surviving Company” means (a) the surviving corporation in any merger, consolidation or similar transaction, involving the Company (including the Company if the Company is the surviving corporation), (b) or the direct or indirect parent company of such surviving corporation or (c) the direct or indirect parent company of the Company following a sale of substantially all of the outstanding stock of the Company.

2.57 “Tax Date” shall have the meaning set forth in Section 17.1(a).

2.58 “Tendered Restricted Shares” shall have the meaning set forth in Section 6.5(f).

2.59 “Term” of any Option or SAR means the period beginning on the Grant Date of an Option or SAR and ending on the date such Option or SAR expires, terminates or is cancelled. No Option or SAR granted under this Plan shall have a Term exceeding 10 years.

2.60 “Termination of Affiliation” means the date the Grantee ceases to be a Service Provider. Notwithstanding the foregoing, if an Award constitutes deferred compensation within the meaning of Code Section 409A, Termination of Affiliation with respect to such Award shall mean the Grantee’s Separation from Service.

ARTICLE 3
ADMINISTRATION

3.1 Committee.

(a) Subject to ARTICLE 14, the Plan shall be administered by the Committee.

(b) Any action of the Committee with respect to the Plan shall be final, conclusive and binding on all Persons, including the Company, its Affiliates, any Grantee, any Person claiming any rights under the Plan from or through any Grantee, and stockholders, except to the extent the Committee may subsequently modify, or take further action not consistent with, its prior action. If not specified in the Plan, the time at which the Committee must or may make any determination shall be determined by the Committee, and any such determination may thereafter be modified by the Committee. The express grant of any specific power to the Committee, and the taking of any action by the Committee, shall not be construed as limiting any power or authority of the Committee.

(c) The Committee may delegate to one or more Officers the authority to do one or both of the following (i) designate Employees who are not Officers to be recipients of Options and SARs (and, to the extent permitted by Applicable Law, other types of Awards) and, to the extent permitted by Applicable Law, the terms thereof, and (ii) determine the number of shares of Common Stock to be subject to such Awards granted to such Employees; provided, however, that the resolutions or charter adopted by the Board or any Committee evidencing such delegation will specify the total number of shares of Common Stock that may be subject to the Awards granted by such Officer and that such Officer may not grant an Award to himself or herself. Any such Awards will be granted on the applicable form of Award Agreement most recently approved for use by the Board or the Committee, unless otherwise provided in the resolutions approving the delegation authority. Notwithstanding anything to the contrary herein, neither the Board nor any Committee may delegate to an Officer who is acting solely in the capacity of an Officer (and not also as a Director) the authority to determine the Fair Market Value.

3.2 Powers of Committee. Subject to and consistent with the provisions of the Plan (including ARTICLE 14), the Committee has full and final authority and sole discretion as follows; provided that any such authority or discretion exercised with respect to a specific Non-Employee Director shall be approved by the affirmative vote of a majority of the members of the Board, even if not a quorum, but excluding the Non-Employee Director with respect to whom such authority or discretion is exercised:

(a) to determine when, to whom and in what types and amounts Awards should be granted;

(b) to grant Awards to Eligible Persons in any number and to determine the terms and conditions applicable to each Award (including the number of Shares or the amount of cash or other property to which an Award will relate, any Exercise Price or purchase price, any limitation or restriction, any schedule for or performance conditions relating to the earning of the Award or the lapse of limitations, forfeiture restrictions, restrictions on exercisability or transferability, any performance goals including those relating to the Company and/or an Affiliate and/or any division thereof and/or an individual, and/or vesting based on the passage of time, based in each case on such considerations as the Committee shall determine);

(c) to determine the benefit payable, including where applicable the number of Shares issued, under any Performance Unit, Performance Share, Dividend Equivalent, Other Stock-Based Award and to determine whether any performance or vesting conditions have been satisfied;

(d) to determine whether or not specific Awards shall be granted in connection with other specific Awards, and if so, whether they shall be exercisable cumulatively with, or alternatively to, such other specific Awards and all other matters to be determined in connection with an Award;

(e) to determine the Term of any Option or SAR;

(f) to determine the amount, if any, that a Grantee shall pay for Restricted Shares, whether to permit or require the payment of cash dividends thereon to be deferred and the terms related thereto, when Restricted Shares (including Restricted Shares acquired upon the exercise of an Option) shall be forfeited and whether such shares shall be held in escrow;

(g) to determine whether, to what extent and under what circumstances an Award may be settled in, or the exercise price of an Award may be paid in, cash, Shares, other Awards or other property, or an Award may be accelerated, vested, canceled, forfeited or surrendered or any terms of the Award may be waived, and to accelerate the exercisability of, and to accelerate or waive any or all of the terms and conditions applicable to, any Award or any group of Awards for any reason and at any time;

(h) to determine with respect to Awards granted to Eligible Persons whether, to what extent and under what circumstances cash, Shares, other Awards, other property and other amounts payable with respect to an Award will be deferred, either at the election of the Grantee or automatically pursuant to the terms of the Award Agreement;

(i) to offer to exchange or buy out any previously granted Award for a payment in cash, Shares or other Award;

(j) to construe and interpret the Plan and to make all determinations, including factual determinations, necessary or advisable for the administration of the Plan;

(k) to make, amend, suspend, waive and rescind rules and regulations relating to the Plan;

(l) to appoint such agents as the Committee may deem necessary or advisable to administer the Plan;

(m) to determine the terms and conditions of all Award Agreements applicable to Eligible Persons (which need not be identical) and, with the consent of the Grantee, to amend any such Award Agreement at any time, among other things, to permit transfers of such Awards to the extent permitted by the Plan; provided that the consent of the Grantee shall not be required for any amendment (i) which does not adversely affect the rights of the Grantee, or (ii) which is necessary or advisable (as determined by the Committee) to carry out the purpose of the Award as a result of any new Applicable Law or change in an existing Applicable Law, or (iii) to the extent the Award Agreement specifically permits amendment without consent;

(n) to cancel, with the consent of the Grantee, outstanding Awards and to grant new Awards in substitution therefor;

(o) to impose such additional terms and conditions upon the grant, exercise or retention of Awards as the Committee may, before or concurrently with the grant thereof, deem appropriate, including limiting the percentage of Awards which may from time to time be exercised by a Grantee;

(p) to make adjustments in the terms and conditions of, and the criteria in, Awards in recognition of unusual or nonrecurring events (including events described in Section 4.2) affecting the Company or an Affiliate or the financial statements of the Company or an Affiliate, or in response to changes in Applicable Laws, regulations or accounting principles;

(q) to correct any defect or supply any omission or reconcile any inconsistency, and to construe and interpret the Plan, the rules and regulations, and Award Agreement or any other instrument entered into or relating to an Award under the Plan; and

(r) to take any other action with respect to any matters relating to the Plan for which it is responsible and to make all other decisions and determinations as may be required under the terms of the Plan or as the Committee may deem necessary or advisable for the administration of the Plan.

3.3 No Repricings. Notwithstanding any provision in Section 3.2 to the contrary, the terms of any outstanding Option or SAR may not be amended to reduce the Exercise Price of such Option or SAR or cancel any outstanding Option or SAR in exchange for other Options or SARs with an Exercise Price that is less than the Exercise Price of the cancelled Option or SAR or for any cash payment (or Shares having with a Fair Market Value) in an amount that exceeds the excess of the Fair Market Value of the Shares underlying such cancelled Option or SAR over the aggregate Exercise Price of such Option or SAR or for any other Award, without stockholder approval; provided, however, that the restrictions set forth in this Section 3.3, shall not apply (i) unless the Company has a class of stock that is registered under Section 12 of the Exchange Act or (ii) to any adjustment allowed under to Section 4.2.

ARTICLE 4 SHARES SUBJECT TO THE PLAN

4.1 Number of Shares Available for Grants.

(a) Subject to adjustment as provided in Section 4.2 and except as provided in Section 5.6(b), the maximum number of Shares hereby reserved for delivery under the Plan shall be:

(i) 5,500,000 Shares, plus

(ii) an annual increase to be added as of the first day of the Company's fiscal year, beginning in 2025 and occurring each year thereafter through 2031, equal to five percent (5%) of the total number of Shares of Common Stock issued and outstanding on a fully-diluted basis as of the end of the Company's immediately preceding fiscal year (or such lesser number of shares, including no shares, determined by the Board in its sole discretion); provided, however, that the aggregate number of additional Shares available for issuance pursuant to this paragraph (b) shall not exceed a total of 10,000,000 Shares.

(b) Up to a maximum of 5,500,000 million Shares may be delivered pursuant to the exercise of Incentive Stock Options granted hereunder.

(c) if any Shares subject to an Award granted hereunder (other than a Substitute Award granted pursuant to Section 5.6(b)) are forfeited or such Award otherwise terminates without payment or delivery of such Shares, the Shares subject to such Award, to the extent of any such forfeiture or termination, shall again be available for grant under the Plan. For avoidance of doubt, however, if any Shares subject to an Award granted hereunder are withheld or applied as payment in connection with the exercise of an Award or the withholding or payment of taxes related thereto ("Returned Shares"), such Returned Shares will be treated as having been delivered for purposes of determining the maximum number of Shares available for grant under the Plan and shall not again be treated as available for grant under the Plan. Moreover, the number of Shares available for issuance under the Plan may not be increased through the Company's purchase of Shares on the open market with the proceeds obtained from the exercise of any Options granted hereunder. Upon settlement of an SAR, the number of Shares underlying the portion of the SAR that is exercised will be treated as having been delivered for purposes of determining the maximum number of Shares available for grant under the Plan and shall not again be treated as available for issuance under the Plan.

(d) Shares delivered pursuant to the Plan may be, in whole or in part, authorized and unissued Shares, or treasury Shares, including Shares repurchased by the Company for purposes of the Plan.

4.2 Adjustments in Authorized Shares and Awards; Corporate Transaction, Liquidation or Dissolution.

(a) Adjustment in Authorized Shares and Awards. In the event that the Committee determines that any dividend or other distribution (whether in the form of cash, Shares, or other property), recapitalization, forward or reverse stock split, subdivision, consolidation or reduction of capital, reorganization, merger, consolidation, scheme of arrangement, split-up, spin-off or combination involving the Company or

repurchase or exchange of Shares or other securities of the Company or other rights to purchase Shares or other securities of the Company, or other similar corporate transaction or event affects the Shares such that any adjustment is determined by the Committee to be appropriate in order to prevent dilution or enlargement of the benefits or potential benefits intended to be made available under the Plan, then the Committee shall, in such manner as it may deem equitable, adjust any or all of (i) the number and type of Shares (or other securities or property) with respect to which Awards may be granted, (ii) the number and type of Shares (or other securities or property) subject to outstanding Awards, (iii) the Exercise Price with respect to any Option or SAR or, if deemed appropriate, make provision for a cash payment to the holder of an outstanding Award, and (iv) the number and kind of Shares of outstanding Restricted Shares, or the Shares underlying any other form of Award. Notwithstanding the foregoing, no such adjustment shall be authorized with respect to any Options or SARs to the extent that such adjustment would cause the Option or SAR to violate Section 424(a) of the Code or otherwise subject any Grantee to taxation under Section 409A of the Code; and provided further that the number of Shares subject to any Award denominated in Shares shall always be a whole number.

(b) Merger, Consolidation or Similar Corporate Transaction. In the event of a merger or consolidation of the Company with or into another corporation or a sale of substantially all of the stock of the Company (a "Corporate Transaction"), unless an outstanding Award is assumed by the Surviving Company or replaced with an equivalent Award granted by the Surviving Company in substitution for such outstanding Award, the Committee shall cancel any outstanding Awards that are not vested and nonforfeitable as of the consummation of such Corporate Transaction (unless the Committee accelerates the vesting of any such Awards) and with respect to any vested and nonforfeitable Awards, the Committee may either (i) allow all Grantees to exercise such Awards of Options and SARs within a reasonable period prior to the consummation of the Corporate Transaction and cancel any outstanding Options or SARs that remain unexercised upon consummation of the Corporate Transaction, or (ii) cancel any or all of such outstanding Awards in exchange for a payment (in cash, or in securities or other property) in an amount equal to the amount that the Grantee would have received (net of the Exercise Price with respect to any Options or SARs) if such vested Awards were settled or distributed or such vested Options and SARs were exercised immediately prior to the consummation of the Corporate Transaction. Notwithstanding the foregoing, if an Option or SAR is not assumed by the Surviving Company or replaced with an equivalent Award issued by the Surviving Company and the Exercise Price with respect to any outstanding Option or SAR exceeds the Fair Market Value of the Shares immediately prior to the consummation of the Corporate Transaction, such Awards shall be cancelled without any payment to the Grantee.

(c) Liquidation or Dissolution of the Company. In the event of the proposed dissolution or liquidation of the Company, each Award will terminate immediately prior to the consummation of such proposed action, unless otherwise provided by the Committee. Additionally, the Committee may, in the exercise of its sole discretion, cause Awards to be vested and non-forfeitable and cause any conditions on any such Award to lapse, as to all or any part of such Award, including Shares as to which the Award would not otherwise be exercisable or non-forfeitable and allow all Grantees to exercise such Awards of Options and SARs within a reasonable period prior to the consummation of such proposed action. Any Awards that remain unexercised upon consummation of such proposed action shall be cancelled.

(d) Deferred Compensation. Notwithstanding the forgoing provisions of this Section 4.2, if an Award constitutes deferred compensation within the meaning of Code Section 409A, no payment or settlement of such Award shall be made pursuant to Section 4.2 (b) or (c), unless the Corporate Transaction or the dissolution or liquidation of the Company, as applicable, constitutes a Change in Control.

ARTICLE 5 ELIGIBILITY AND GENERAL CONDITIONS OF AWARDS

5.1 Eligibility. The Committee may in its discretion grant Awards to any Eligible Person, whether or not he or she has previously received an Award; provided, however, that all Awards made to Non-Employee Directors shall be determined by the Board in its sole discretion.

5.2 Award Agreement. To the extent not set forth in the Plan, the terms and conditions of each Award shall be set forth in an Award Agreement.

5.3 General Terms and Termination of Affiliation. The Committee may impose on any Award or the exercise or settlement thereof, at the date of grant or, subject to the provisions of Section 15.2, thereafter, such additional terms and conditions not inconsistent with the provisions of the Plan as the Committee shall determine, including terms requiring forfeiture, acceleration or pro-rata acceleration of Awards in the event of a Termination of Affiliation by the Grantee. Except as may be required under the Delaware General Corporation Law, Awards may be granted for no consideration other than prior and future services. Except as set forth in an Award Agreement or as otherwise determined by the Committee, (a) all Options and SARs that are not vested and exercisable at the time of a Grantee's Termination of Affiliation, and any other Awards that remain subject to a risk of forfeiture or which are not otherwise vested at the time of the Grantee's Termination of Affiliation shall be forfeited to the Company and (b) all outstanding Options and SARs not previously exercised shall expire three months after the Grantee's Termination of Affiliation.

5.4 Nontransferability of Awards.

(a) Each Award and each right under any Award shall be exercisable only by the Grantee during the Grantee's lifetime, or, if permissible under Applicable Law, by the Grantee's guardian or legal representative or by a transferee receiving such Award pursuant to a qualified domestic relations order (a "QDRO") as defined in the Code or Title I of the Employee Retirement Income Security Act of 1974, as amended, or the rules thereunder.

(b) No Award (prior to the time, if applicable, Shares are delivered in respect of such Award), and no right under any Award, may be assigned, alienated, pledged, attached, sold or otherwise transferred or encumbered by a Grantee otherwise than by will or by the laws of descent and distribution (or in the case of Restricted Shares, to the Company) or pursuant to a QDRO, and any such purported assignment, alienation, pledge, attachment, sale, transfer or encumbrance shall be void and unenforceable against the Company or any Affiliate; provided that the designation of a beneficiary to receive benefits in the event of the Grantee's death shall not constitute an assignment, alienation, pledge, attachment, sale, transfer or encumbrance.

(c) Notwithstanding subsections (a) and (b) above, to the extent provided in the Award Agreement or as otherwise approved by the Committee, Options (other than Incentive Stock Options) and Restricted Shares, may be transferred, without consideration, to a Permitted Transferee. For this purpose, a "Permitted Transferee" in respect of any Grantee means any member of the Immediate Family of such Grantee, any trust of which all of the primary beneficiaries are such Grantee or members of his or her Immediate Family, or any partnership (including limited liability companies and similar entities) of which all of the partners or members are such Grantee or members of his or her Immediate Family; and the "Immediate Family" of a Grantee means the Grantee's spouse, children, stepchildren, grandchildren, parents, stepparents, siblings, grandparents, nieces and nephews. Such Option may be exercised by such transferee in accordance with the terms of the Award Agreement. If so determined by the Committee, a Grantee may, in the manner established by the Committee, designate a beneficiary or beneficiaries to exercise the rights of the Grantee, and to receive any distribution with respect to any Award upon the death of the Grantee. A transferee, beneficiary, guardian, legal representative or other Person claiming any rights under the Plan from or through any Grantee shall be subject to and consistent with the provisions of the Plan and any applicable Award Agreement, except to the extent the Plan and Award Agreement otherwise provide with respect to such Persons, and to any additional restrictions or limitations deemed necessary or appropriate by the Committee.

(d) Nothing herein shall be construed as requiring the Committee to honor a QDRO except to the extent required under Applicable Law.

5.5 Cancellation and Rescission of Awards. Unless the Award Agreement specifies otherwise, the Committee may cancel, rescind, suspend, withhold, or otherwise limit or restrict any unexercised Award at any time

if the Grantee is not in compliance with all applicable provisions of the Award Agreement and the Plan or if the Grantee has a Termination of Affiliation.

5.6 Stand-Alone, Tandem and Substitute Awards.

(a) Awards granted under the Plan may, in the discretion of the Committee, be granted either alone or in addition to, in tandem with, or in substitution for, any other Award granted under the Plan unless such tandem or substitution Award would subject the Grantee to tax penalties imposed under Section 409A of the Code. If an Award is granted in substitution for another Award or any non-Plan award or benefit, the Committee shall require the surrender of such other Award or non-Plan award or benefit in consideration for the grant of the new Award. Awards granted in addition to or in tandem with other Awards or non-Plan awards or benefits may be granted either at the same time as or at a different time from the grant of such other Awards or non-Plan awards or benefits; provided, however, that if any SAR is granted in tandem with an Incentive Stock Option, such SAR and Incentive Stock Option must have the same Grant Date, Term and the Exercise Price of the SAR may not be less than the Exercise Price of the Incentive Stock Option.

(b) The Committee may, in its discretion and on such terms and conditions as the Committee considers appropriate in the circumstances, grant Awards under the Plan ("Substitute Awards") in substitution for stock and stock-based awards ("Acquired Entity Awards") held by current or former employees or non-employee directors of, or consultants to, another corporation or entity who become Eligible Persons as the result of a merger or consolidation of the employing corporation or other entity (the "Acquired Entity") with the Company or an Affiliate or the acquisition by the Company or an Affiliate of property or stock of the Acquired Entity immediately prior to such merger, consolidation or acquisition in order to preserve for the Grantee the economic value of all or a portion of such Acquired Entity Award at such price as the Committee determines necessary to achieve preservation of economic value. The limitations in Section 4.1 on the number of Shares reserved or available for grants shall not apply to Substitute Awards granted under this Section 5.6(b).

5.7 Compliance with Rule 16b-3.

(a) Six-Month Holding Period Advice. Unless a Grantee could otherwise dispose of or exercise a derivative security or dispose of Shares delivered under the Plan without incurring liability under Section 16(b) of the Exchange Act, the Committee may advise or require a Grantee to comply with the following in order to avoid incurring liability under Section 16(b) of the Exchange Act: (i) at least six months must elapse from the date of acquisition of a derivative security under the Plan to the date of disposition of the derivative security (other than upon exercise or conversion) or its underlying equity security, and (ii) Shares granted or awarded under the Plan other than upon exercise or conversion of a derivative security must be held for at least six months from the date of grant of an Award.

(b) Reformation to Comply with Exchange Act Rules. To the extent the Committee determines that a grant or other transaction by a Section 16 Person should comply with applicable provisions of Rule 16b-3 (except for transactions exempted under alternative Exchange Act rules), the Committee shall take such actions as necessary to make such grant or other transaction so comply, and if any provision of this Plan or any Award Agreement relating to a given Award does not comply with the requirements of Rule 16b-3 as then applicable to any such grant or transaction, such provision will be construed or deemed amended, if the Committee so determines, to the extent necessary to conform to the then applicable requirements of Rule 16b-3.

(c) Rule 16b-3 Administration. Any function relating to a Section 16 Person shall be performed solely by the Committee or the Board if necessary to ensure compliance with applicable requirements of Rule 16b-3, to the extent the Committee determines that such compliance is desired. Each member of the Committee or person acting on behalf of the Committee shall be entitled to, in good faith, rely or act upon any report or other information furnished to him by any officer, manager or other employee of the Company or any Affiliate, the Company's independent certified public accountants or any executive

compensation consultant or attorney or other professional retained by the Company to assist in the administration of the Plan.

5.8 Deferral of Award Payouts. The Committee may permit a Grantee to defer, or if and to the extent specified in an Award Agreement require the Grantee to defer, receipt of the payment of cash or the delivery of Shares that would otherwise be due by virtue of the lapse or waiver of restrictions with respect to Restricted Stock Units, the satisfaction of any requirements or goals with respect to Performance Units or Performance Shares, the lapse or waiver of the deferral period for Deferred Stock, or the lapse or waiver of restrictions with respect to Other Stock-Based Awards. If the Committee permits such deferrals, the Committee shall establish rules and procedures for making such deferral elections and for the payment of such deferrals, which shall conform in form and substance with applicable regulations promulgated under Section 409A of the Code and ARTICLE 16 to ensure that the Grantee is not subjected to tax penalties under Section 409A of the Code with respect to such deferrals. Except as otherwise provided in an Award Agreement, any payment or any Shares that are subject to such deferral shall be made or delivered to the Grantee as specified in the Award Agreement or pursuant to the Grantee's deferral election.

ARTICLE 6 STOCK OPTIONS

6.1 Grant of Options. Subject to and consistent with the provisions of the Plan, Options may be granted to any Eligible Person in such number, and upon such terms, and at any time and from time to time as shall be determined by the Committee.

6.2 Award Agreement. Each Option grant shall be evidenced by an Award Agreement that shall specify the Exercise Price, the Term of the Option, the number of Shares to which the Option pertains, the time or times at which such Option shall be exercisable and such other provisions as the Committee shall determine.

6.3 Option Exercise Price. The Exercise Price of an Option under this Plan shall be determined in the sole discretion of the Committee but may not be less than 100% of the Fair Market Value of a Share on the Grant Date.

6.4 Grant of Incentive Stock Options. At the time of the grant of any Option, the Committee may in its discretion designate that such Option shall be made subject to additional restrictions to permit it to qualify as an Incentive Stock Option. Any Option designated as an Incentive Stock Option:

(a) shall be granted only to an Employee;

(b) shall have an Exercise Price of not less than 100% of the Fair Market Value of a Share on the Grant Date, and, if granted to a person who owns capital stock (including stock treated as owned under Section 424(d) of the Code) possessing more than 10% of the total combined voting power of all classes of capital stock of the Company or any Subsidiary of the Company (a "More Than 10% Owner"), have an Exercise Price not less than 110% of the Fair Market Value of a Share on its Grant Date;

(c) shall be for a period of not more than 10 years (five years if the Grantee is a More Than 10% Owner) from its Grant Date, and shall be subject to earlier termination as provided herein or in the applicable Award Agreement;

(d) shall not have an aggregate Fair Market Value (as of the Grant Date) of the Shares with respect to which Incentive Stock Options (whether granted under the Plan or any other stock option plan of the Grantee's employer or any parent or Subsidiary of the Company ("Other Plans")) are exercisable for the first time by such Grantee during any calendar year ("Current Grant"), determined in accordance with the provisions of Section 422 of the Code, which exceeds \$100,000 (the "\$100,000 Limit");

(e) shall, if the aggregate Fair Market Value of the Shares (determined on the Grant Date) with respect to the Current Grant and all Incentive Stock Options previously granted under the Plan and any Other Plans which are exercisable for the first time during a calendar year would exceed the \$100,000

Limit, be, as to the portion in excess of the \$100,000 Limit, exercisable as a separate option that is not an Incentive Stock Option at such date or dates as are provided in the Current Grant;

(f) shall require the Grantee to notify the Committee of any disposition of any Shares delivered pursuant to the exercise of the Incentive Stock Option under the circumstances described in Section 421(b) of the Code (relating to holding periods and certain disqualifying dispositions) ("Disqualifying Disposition") within 10 days of such a Disqualifying Disposition;

(g) shall by its terms not be assignable or transferable other than by will or the laws of descent and distribution and may be exercised, during the Grantee's lifetime, only by the Grantee; provided, however, that the Grantee may, to the extent provided in the Plan in any manner specified by the Committee, designate in writing a beneficiary to exercise his or her Incentive Stock Option after the Grantee's death; and

(h) shall, if such Option nevertheless fails to meet the foregoing requirements, or otherwise fails to meet the requirements of Section 422 of the Code for an Incentive Stock Option, be treated for all purposes of this Plan, except as otherwise provided in subsections (d) and (e) above, as an Option that is not an Incentive Stock Option.

Notwithstanding the foregoing and Section 3.2, the Committee may, without the consent of the Grantee, at any time before the exercise of an Option (whether or not an Incentive Stock Option), take any action necessary to prevent such Option from being treated as an Incentive Stock Option.

6.5 Payment of Exercise Price. Except as otherwise provided in an Award Agreement, Options shall be exercised by the delivery of a written notice of exercise to the Company, setting forth the number of Shares with respect to which the Option is to be exercised, accompanied by full payment for the Shares made by any one or more of the following means:

(a) cash, personal check or wire transfer;

(b) with the approval of the Committee, delivery of Common Stock owned by the Grantee prior to exercise, valued at Fair Market Value on the date of exercise;

(c) with the approval of the Committee, Shares acquired upon the exercise of such Option, such Shares valued at Fair Market Value on the date of exercise;

(d) with the approval of the Committee, Restricted Shares held by the Grantee prior to the exercise of the Option, valued at Fair Market Value on the date of exercise; or

(e) subject to Applicable Law (including the prohibited loan provisions of Section 402 of the Sarbanes Oxley Act of 2002), through the sale of the Shares acquired on exercise of the Option through a broker-dealer to whom the Grantee has submitted an irrevocable notice of exercise and irrevocable instructions to deliver promptly to the Company the amount of sale proceeds sufficient to pay for such Shares, together with, if requested by the Company, the amount of federal, state, local or foreign withholding taxes payable by Grantee by reason of such exercise.

(f) The Committee may in its discretion specify that, if any Restricted Shares ("Tendered Restricted Shares") are used to pay the Exercise Price, (x) all the Shares acquired on exercise of the Option shall be subject to the same restrictions as the Tendered Restricted Shares, determined as of the date of exercise of the Option, or (y) a number of Shares acquired on exercise of the Option equal to the number of Tendered Restricted Shares shall be subject to the same restrictions as the Tendered Restricted Shares, determined as of the date of exercise of the Option.

ARTICLE 7 STOCK APPRECIATION RIGHTS

7.1 Issuance. Subject to and consistent with the provisions of the Plan, the Committee, at any time and from time to time, may grant SARs to any Eligible Person either alone or in addition to other Awards granted under the Plan. Such SARs may, but need not, be granted in connection with a specific Option granted under ARTICLE 6. The Committee may impose such conditions or restrictions on the exercise of any SAR as it shall deem appropriate.

7.2 Award Agreements. Each SAR grant shall be evidenced by an Award Agreement in such form as the Committee may approve and shall contain such terms and conditions not inconsistent with other provisions of the Plan as shall be determined from time to time by the Committee.

7.3 SAR Exercise Price. The Exercise Price of a SAR shall be determined by the Committee in its sole discretion; provided that the Exercise Price shall not be less than 100% of the Fair Market Value of a Share on the date of the grant of the SAR.

7.4 Exercise and Payment. Upon the exercise of an SAR, a Grantee shall be entitled to receive payment from the Company in an amount determined by multiplying:

- (a) The excess of the Fair Market Value of a Share on the date of exercise over the Exercise Price; by
- (b) The number of Shares with respect to which the SAR is exercised.

SARs shall be deemed exercised on the date written notice of exercise in a form acceptable to the Committee is received by the Secretary of the Company. The Company shall make payment in respect of any SAR within five (5) days of the date the SAR is exercised. Any payment by the Company in respect of a SAR may be made in cash, Shares, other property, or any combination thereof, as the Committee, in its sole discretion, shall determine or, to the extent permitted under the terms of the applicable Award Agreement, at the election of the Grantee.

ARTICLE 8 RESTRICTED SHARES

8.1 Grant of Restricted Shares. Subject to and consistent with the provisions of the Plan, the Committee, at any time and from time to time, may grant Restricted Shares to any Eligible Person in such amounts as the Committee shall determine.

8.2 Award Agreement. Each grant of Restricted Shares shall be evidenced by an Award Agreement that shall specify the Period(s) of Restriction, the number of Restricted Shares granted, and such other provisions as the Committee shall determine. The Committee may impose such conditions and/or restrictions on any Restricted Shares granted pursuant to the Plan as it may deem advisable, including restrictions based upon the achievement of specific performance goals, time-based restrictions on vesting following the attainment of the performance goals, and/or restrictions under applicable securities laws; provided that such conditions and/or restrictions may lapse, if so determined by the Committee, in the event of the Grantee's Termination of Affiliation due to death, Disability, or involuntary termination by the Company or an Affiliate without Cause.

8.3 Consideration for Restricted Shares. The Committee shall determine the amount, if any, that a Grantee shall pay for Restricted Shares.

8.4 Effect of Forfeiture. If Restricted Shares are forfeited, and if the Grantee was required to pay for such shares or acquired such Restricted Shares upon the exercise of an Option, the Grantee shall be deemed to have resold such Restricted Shares to the Company at a price equal to the lesser of (x) the amount paid by the Grantee for such Restricted Shares, or (y) the Fair Market Value of a Share on the date of such forfeiture. The Company shall pay to the Grantee the deemed sale price as soon as is administratively practical. Such Restricted Shares shall cease to be outstanding and shall no longer confer on the Grantee thereof any rights as a stockholder of the Company, from and after the date of the event causing the forfeiture, whether or not the Grantee accepts the Company's tender of payment for such Restricted Shares.

8.5 Escrow; Legends. The Committee may provide that the certificates for any Restricted Shares (x) shall be held (together with a stock power executed in blank by the Grantee) in escrow by the Secretary of the Company until such Restricted Shares become nonforfeitable or are forfeited and/or (y) shall bear an appropriate legend restricting the transfer of such Restricted Shares under the Plan. If any Restricted Shares become nonforfeitable, the Company shall cause certificates for such shares to be delivered without such legend.

ARTICLE 9 PERFORMANCE UNITS AND PERFORMANCE SHARES

9.1 Grant of Performance Units and Performance Shares. Subject to and consistent with the provisions of the Plan, Performance Units or Performance Shares may be granted to any Eligible Person in such amounts and upon such terms, and at any time and from time to time, as shall be determined by the Committee.

9.2 Value/Performance Goals. The Committee shall set performance goals in its discretion which, depending on the extent to which they are met, will determine the number or value of Performance Units or Performance Shares that will be paid to the Grantee.

(a) Performance Unit. Each Performance Unit shall have an initial value that is established by the Committee at the time of grant.

(b) Performance Share. Each Performance Share shall have an initial value equal to the Fair Market Value of a Share on the date of grant.

9.3 Earning of Performance Units and Performance Shares. After the applicable Performance Period has ended, the holder of Performance Units or Performance Shares shall be entitled to payment based on the level of achievement of performance goals set by the Committee.

At the discretion of the Committee, the settlement of Performance Units or Performance Shares may be in cash, Shares of equivalent value, or in some combination thereof, as set forth in the Award Agreement.

If a Grantee is promoted, demoted or transferred to a different business unit of the Company during a Performance Period, then, to the extent the Committee determines that the Award, the performance goals, or the Performance Period are no longer appropriate, the Committee may adjust, change, eliminate or cancel the Award, the performance goals, or the applicable Performance Period, as it deems appropriate in order to make them appropriate and comparable to the initial Award, the performance goals, or the Performance Period.

At the discretion of the Committee, a Grantee may be entitled to receive any dividends or Dividend Equivalents declared with respect to Shares deliverable in connection with vested Performance Shares which have been earned, but not yet delivered to the Grantee.

ARTICLE 10 DEFERRED STOCK AND RESTRICTED STOCK UNITS

10.1 Grant of Deferred Stock and Restricted Stock Units. Subject to and consistent with the provisions of the Plan, the Committee, at any time and from time to time, may grant Deferred Stock and/or Restricted Stock Units to any Eligible Person, in such amount and upon such terms as the Committee shall determine. Deferred Stock must conform in form and substance with applicable regulations promulgated under Section 409A of the Code and with ARTICLE 16 to ensure that the Grantee is not subjected to tax penalties under Section 409A of the Code with respect to such Deferred Stock.

10.2 Vesting and Delivery.

(a) Delivery with Respect to Deferred Stock. Delivery of Shares subject to a Deferred Stock grant will occur upon expiration of the deferral period or upon the occurrence of one or more of the distribution events described in Section 409A(a)(2) of the Code as specified by the Committee in the Grantee's Award Agreement for the Award of Deferred Stock. An Award of Deferred Stock may be subject to such

substantial risk of forfeiture conditions as the Committee may impose, which conditions may lapse at such times or upon the achievement of such objectives as the Committee shall determine at the time of grant or thereafter. Unless otherwise determined by the Committee, to the extent that the Grantee has a Termination of Affiliation while the Deferred Stock remains subject to a substantial risk of forfeiture, such shares of Deferred Stock shall be forfeited, unless the Committee determines that such substantial risk of forfeiture shall lapse in the event of the Grantee's Termination of Affiliation due to death, Disability, or involuntary termination by the Company or an Affiliate without "cause."

(b) Delivery with Respect to Restricted Stock Units. Delivery of Shares subject to a grant of Restricted Stock Units shall occur no later than the 15th day of the third month following the end of the taxable year of the Grantee or the fiscal year of the Company in which the Grantee's rights under such Restricted Stock Units are no longer subject to a substantial risk of forfeiture as defined in final regulations under Section 409A of the Code. Unless otherwise determined by the Committee, to the extent that the Grantee has a Termination of Affiliation while the Restricted Stock Units remains subject to a substantial risk of forfeiture, such Restricted Stock Units shall be forfeited, unless the Committee determines that such substantial risk of forfeiture shall lapse in the event of the Grantee's Termination of Affiliation due to death, Disability, or involuntary termination by the Company or an Affiliate without "cause."

10.3 Voting and Dividend Equivalent Rights Attributable to Deferred Stock and Restricted Stock Units. A Grantee awarded Deferred Stock or Restricted Stock Units will have no voting rights with respect to such Deferred Stock or Restricted Stock Units prior to the delivery of Shares in settlement of such Deferred Stock and/or Restricted Stock Units. Unless otherwise determined by the Committee, a Grantee will have the rights to receive Dividend Equivalents in respect of Deferred Stock and/or Restricted Stock Units, which Dividend Equivalents shall be deemed reinvested in additional Shares of Deferred Stock or Restricted Stock Units, as applicable, which shall remain subject to the same forfeiture conditions applicable to the Deferred Stock or Restricted Stock Units to which such Dividend Equivalents relate.

ARTICLE 11 DIVIDEND EQUIVALENTS

The Committee is authorized to grant Awards of Dividend Equivalents alone or in conjunction with other Awards. The Committee may provide that Dividend Equivalents shall be paid or distributed when accrued or shall be deemed to have been reinvested in additional Shares or additional Awards or otherwise reinvested subject to distribution at the same time and subject to the same conditions as the Award to which it relates; provided, however, that any Dividend Equivalents granted in conjunction with any Award that is subject to forfeiture conditions shall remain subject to the same forfeiture conditions applicable to the Award to which such Dividend Equivalents relate and any payments in respect of any Dividend Equivalents granted in conjunction with any Options or SARs may not be conditioned, directly or indirectly, on the Grantee's exercise of the Options or SARs or paid at the same time that the Options or SARs are exercised. The timing of payment or distribution of Dividend Equivalents must comply with the requirements of Section 409A of the Code.

ARTICLE 12 BONUS SHARES

Subject to the terms of the Plan, the Committee may grant Bonus Shares to any Eligible Person, in such amount and upon such terms and at any time and from time to time as shall be determined by the Committee.

ARTICLE 13 OTHER STOCK-BASED AWARDS

The Committee is authorized, subject to limitations under Applicable Law, to grant such other Awards that are denominated or payable in, valued in whole or in part by reference to, or otherwise based on, or related to, Shares, as deemed by the Committee to be consistent with the purposes of the Plan, including Shares awarded which are not subject to any restrictions or conditions, convertible or exchangeable debt securities or other rights

convertible or exchangeable into Shares, and Awards valued by reference to the value of securities of or the performance of specified Affiliates. Subject to and consistent with the provisions of the Plan, the Committee shall determine the terms and conditions of such Awards. Except as provided by the Committee, Shares delivered pursuant to a purchase right granted under this ARTICLE 13 shall be purchased for such consideration, paid for by such methods and in such forms, including cash, Shares, outstanding Awards or other property, as the Committee shall determine.

**ARTICLE 14
NON-EMPLOYEE DIRECTOR AWARDS**

Subject to the terms of the Plan, the Board may grant Awards to any Non-Employee Director, in such amount and upon such terms and at any time and from time to time as shall be determined by the full Board in its sole discretion. Except as otherwise provided in Section 5.6(b), a Non-Employee Director may not be granted Awards with respect to Shares that have a Fair Market Value (determined as of the date of grant) in excess of \$1,000,000 in a single calendar year.

**ARTICLE 15
AMENDMENT, MODIFICATION, AND TERMINATION**

15.1 Amendment, Modification, and Termination. Subject to Section 15.2, the Board may, at any time and from time to time, alter, amend, suspend, discontinue or terminate the Plan in whole or in part without the approval of the Company's stockholders, except that (a) any amendment or alteration shall be subject to the approval of the Company's stockholders if such stockholder approval is required by any federal or state law or regulation or the rules of any stock exchange or automated quotation system on which the Shares may then be listed or quoted, and (b) the Board may otherwise, in its discretion, determine to submit other such amendments or alterations to stockholders for approval.

15.2 Awards Previously Granted. Except as otherwise specifically permitted in the Plan or an Award Agreement, no termination, amendment, or modification of the Plan shall adversely affect in any material way any Award previously granted under the Plan, without the written consent of the Grantee of such Award.

**ARTICLE 16
COMPLIANCE WITH CODE SECTION 409A**

16.1 Awards Subject to Code Section 409A. The provisions of this ARTICLE 16 shall apply to any Award or portion thereof that is or becomes deferred compensation subject to Code Section 409A (a "409A Award"), notwithstanding any provision to the contrary contained in the Plan or the Award Agreement applicable to such Award.

16.2 Deferral and/or Distribution Elections. Except as otherwise permitted or required by Code Section 409A, the following rules shall apply to any deferral and/or elections as to the form or timing of distributions (each, an "Election") that may be permitted or required by the Committee with respect to a 409A Award:

- (a) Any Election must be in writing and specify the amount being deferred, and the time and form of distribution (i.e., lump sum or installments) as permitted by this Plan. An Election may but need not specify whether payment will be made in cash, Shares or other property.
- (b) Any Election shall become irrevocable as of the deadline specified by the Committee, which shall not be later than December 31 of the year preceding the year in which services relating to the Award commence; provided, however, that if the Award qualifies as "performance-based compensation" for purposes of Code Section 409A and is based on services performed over a period of at least twelve (12) months, then the deadline may be no later than six (6) months prior to the end of such Performance Period.
- (c) Unless otherwise provided by the Committee, an Election shall continue in effect until a written election to revoke or change such Election is received by the Committee, prior to the last day for making an Election for the subsequent year.

16.3 Subsequent Elections. Except as otherwise permitted or required by Code Section 409A, any 409A Award which permits a subsequent Election to further defer the distribution or change the form of distribution shall comply with the following requirements:

- (a) No subsequent Election may take effect until at least twelve (12) months after the date on which the subsequent Election is made;
- (b) Each subsequent Election related to a distribution upon separation from service, a specified time, or a Change in Control must result in a delay of the distribution for a period of not less than five (5) years from the date such distribution would otherwise have been made; and
- (c) No subsequent Election related to a distribution to be made at a specified time or pursuant to a fixed schedule shall be made less than twelve (12) months prior to the date the first scheduled payment would otherwise be made.

16.4 Distributions Pursuant to Deferral Elections. Except as otherwise permitted or required by Code Section 409A, no distribution in settlement of a 409A Award may commence earlier than:

- (a) Separation from Service;
- (b) The date the Grantee becomes Disabled;
- (c) The Grantee's death;
- (d) A specified time (or pursuant to a fixed schedule) that is either (i) specified by the Committee upon the grant of the Award and set forth in the Award Agreement or (ii) specified by the Grantee in an Election complying with the requirements of Section 16.2 and/or Section 16.3, as applicable; or
- (e) A change in ownership of the Company or a substantial portion of its assets within the meaning of Treasury Regulation Section 1.409A-3(i)(5)(v) or (vii) or a change in effective control of the Company within the meaning of Treasury Regulation Section 1.409A-3(i)(5)(vi) (a "Change in Control").

16.5 Six Month Delay. Notwithstanding anything herein or in any Award Agreement or Election to the contrary, to the extent that distribution of a 409A Award is triggered by a Grantee's Separation from Service, if the Grantee is then a "specified employee" (as defined in Treasury Regulation Section 1.409A-1(i)), no distribution may be made before the date which is six (6) months after such Grantee's Separation from Service, or, if earlier, the date of the Grantee's death.

16.6 Death or Disability. Unless the Award Agreement otherwise provides, if a Grantee dies or becomes Disabled before complete distribution of amounts payable upon settlement of a 409A Award, such undistributed amounts, to the extent vested, shall be distributed as provided in the Grantee's Election. If the Grantee has made no Election with respect to distributions upon death or Disability, all such distributions shall be paid in a lump sum within 90 days following the date of the Grantee's death or Disability.

16.7 No Acceleration of Distributions. This Plan does not permit the acceleration of the time or schedule of any distribution under a 409A Award, except as provided by Code Section 409A and/or applicable regulations or rulings issued thereunder.

ARTICLE 17 WITHHOLDING

17.1 Required Withholding.

- (a) The Committee in its sole discretion may provide that when taxes are to be withheld in connection with the exercise of an Option or SAR, or upon the lapse of restrictions on Restricted Shares, or upon the transfer of Shares, or upon payment of any other benefit or right under this Plan (the date on which such exercise occurs or such restrictions lapse or such payment of any other benefit or right occurs

hereinafter referred to as the “Tax Date”), the Grantee may elect to make payment for the withholding of federal, state and local taxes including Social Security and Medicare (“FICA”) taxes by one or a combination of the following methods:

(i) payment of an amount in cash equal to the amount to be withheld (including cash obtained through the sale of the Shares acquired on exercise of an Option or SAR, upon the lapse of restrictions on Restricted Shares, or upon the transfer of Shares, through a broker-dealer to whom the Grantee has submitted an irrevocable instructions to deliver promptly to the Company, the amount to be withheld);

(ii) delivering part or all of the amount to be withheld in the form of Common Stock valued at its Fair Market Value on the Tax Date;

(iii) requesting the Company to withhold from those Shares that would otherwise be received upon exercise of the Option or SAR, upon the lapse of restrictions on Restricted Shares, or upon the transfer of Shares, a number of Shares having a Fair Market Value on the Tax Date equal to the amount to be withheld; or

(iv) withholding from any compensation otherwise due to the Grantee.

(b) The Committee in its sole discretion may provide that the maximum amount of tax withholding upon exercise of an Option or SARs, upon the lapse of restrictions on Restricted Shares, or upon the transfer of Shares, to be satisfied by withholding Shares upon exercise of such Option or SAR, upon the lapse of restrictions on Restricted Shares, or upon the transfer of Shares, pursuant to clause (iii) above shall not exceed the minimum amount of taxes, including FICA taxes, required to be withheld under federal, state and local law. An election by Grantee under this subsection is irrevocable. Any fractional share amount and any additional withholding not paid by the withholding or surrender of Shares must be paid in cash. If no timely election is made, the Grantee must deliver cash to satisfy all tax withholding requirements.

(c) Any Grantee who makes a Disqualifying Disposition or an election under Section 83(b) of the Code shall remit to the Company an amount sufficient to satisfy all resulting tax withholding requirements in the same manner as set forth in Section 17.1(a).

17.2 Notification under Code Section 83(b). If the Grantee, in connection with the exercise of any Option, or the grant of Restricted Shares, makes the election permitted under Section 83(b) of the Code to include in such Grantee’s gross income in the year of transfer the amounts specified in Section 83(b) of the Code, then such Grantee shall notify the Company of such election within 10 days of filing the notice of the election with the Internal Revenue Service, in addition to any filing and notification required pursuant to regulations issued under Section 83(b) of the Code. The Committee may, in connection with the grant of an Award or at any time thereafter, prohibit a Grantee from making the election described above.

ARTICLE 18 ADDITIONAL PROVISIONS

18.1 Successors. Subject to Section 4.2(b), all obligations of the Company under the Plan with respect to Awards granted hereunder shall be binding on any successor to the Company, whether the existence of such successor is the result of a direct or indirect purchase, merger, consolidation, or otherwise of all or substantially all of the business and/or assets of the Company.

18.2 Severability. If any part of the Plan is declared by any court or governmental authority to be unlawful or invalid, such unlawfulness or invalidity shall not invalidate any other part of the Plan. Any Section or part of a Section so declared to be unlawful or invalid shall, if possible, be construed in a manner which will give effect to the terms of such Section or part of a Section to the fullest extent possible while remaining lawful and valid.

18.3 Requirements of Law. The granting of Awards and the delivery of Shares under the Plan shall be subject to all Applicable Laws, rules, and regulations, and to such approvals by any governmental agencies or national securities exchanges as may be required. Notwithstanding any provision of the Plan or any Award, Grantees shall not be entitled to exercise, or receive benefits under, any Award, and the Company (and any Affiliate) shall not be obligated to deliver any Shares or deliver benefits to a Grantee, if such exercise or delivery would constitute a violation by the Grantee or the Company of any Applicable Law or regulation.

18.4 Securities Law Compliance.

(a) If the Committee deems it necessary to comply with any applicable securities law, or the requirements of any stock exchange upon which Shares may be listed, the Committee may impose any restriction on Awards or Shares acquired pursuant to Awards under the Plan as it may deem advisable. In addition, if requested by the Company and any underwriter engaged by the Company, Shares acquired pursuant to Awards may not be sold or otherwise transferred or disposed of for such period following the effective date of any registration statement of the Company filed under the Securities Act as the Company or such underwriter shall specify reasonably and in good faith, not to exceed 180 days in the case of the Company's initial public offering or 90 days in the case of any other public offering. All certificates for Shares delivered under the Plan pursuant to any Award or the exercise thereof shall be subject to such stop transfer orders and other restrictions as the Committee may deem advisable under the rules, regulations and other requirements of the SEC, any stock exchange upon which Shares are then listed, any applicable securities law, and the Committee may cause a legend or legends to be put on any such certificates to make appropriate reference to such restrictions. If so requested by the Company, the Grantee shall make a written representation to the Company that he or she will not sell or offer to sell any Shares unless a registration statement shall be in effect with respect to such Shares under the Securities Act of 1933, as amended, and any applicable state securities law or unless he or she shall have furnished to the Company, in form and substance satisfactory to the Company, that such registration is not required.

(b) If the Committee determines that the exercise or nonforfeiture of, or delivery of benefits pursuant to, any Award would violate any applicable provision of securities laws or the listing requirements of any national securities exchange or national market system on which are listed any of the Company's equity securities, then the Committee may postpone any such exercise, nonforfeiture or delivery, as applicable, but the Company shall use all reasonable efforts to cause such exercise, nonforfeiture or delivery to comply with all such provisions at the earliest practicable date.

18.5 Forfeiture Events. Notwithstanding any provisions herein to the contrary, the Committee shall have the authority to determine (and may so provide in any Award Agreement) that a Grantee's (including his or her estate's, beneficiary's or transferee's) rights (including the right to exercise any Option or SAR), payments and benefits with respect to any Award shall be subject to reduction, cancellation, forfeiture or recoupment (to the extent permitted by Applicable Law) in the event of the Grantee's termination for Cause; serious misconduct; violation of the Company's or an Affiliate's policies; breach of fiduciary duty; unauthorized disclosure of any trade secret or confidential information of the Company or an Affiliate; breach of applicable noncompetition, nonsolicitation, confidentiality or other restrictive covenants; or other conduct or activity that is in competition with the business of the Company or an Affiliate, or otherwise detrimental to the business, reputation or interests of the Company and/or an Affiliate; or upon the occurrence of certain events specified in the applicable Award Agreement (in any such case, whether or not the Grantee is then an Employee or Non-Employee Director). The determination of whether a Grantee's conduct, activities or circumstances are described in the immediately preceding sentence shall be made by the Committee in its discretion, and pending any such determination, the Committee shall have the authority to suspend the exercise, payment, delivery or settlement of all or any portion of such Grantee's outstanding Awards pending any investigation of the matter.

18.6 No Rights as a Stockholder. No Grantee shall have any rights as a stockholder of the Company with respect to the Shares (other than Restricted Shares) which may be deliverable upon exercise or payment of such Award until such Shares have been delivered to him or her. Restricted Shares, whether held by a Grantee or in escrow by the Secretary of the Company, shall confer on the Grantee all rights of a stockholder of the Company,

except as otherwise provided in the Plan or Award Agreement. At the time of a grant of Restricted Shares, the Committee may require the payment of cash dividends thereon to be deferred and, if the Committee so determines, reinvested in additional Restricted Shares. Stock dividends and deferred cash dividends issued with respect to Restricted Shares shall be subject to the same restrictions and other terms as apply to the Restricted Shares with respect to which such dividends are issued. The Committee may in its discretion provide for payment of interest on deferred cash dividends.

18.7 Nature of Payments. Unless otherwise specified in the Award Agreement, Awards shall be special incentive payments to the Grantee and shall not be taken into account in computing the amount of salary or compensation of the Grantee for purposes of determining any pension, retirement, death or other benefit under (a) any pension, retirement, profit sharing, bonus, insurance or other employee benefit plan of the Company or any Affiliate, except as such plan shall otherwise expressly provide, or (b) any agreement between (i) the Company or any Affiliate and (ii) the Grantee, except as such agreement shall otherwise expressly provide.

18.8 Non-Exclusivity of Plan. Neither the adoption of the Plan by the Board nor its submission to the stockholders of the Company for approval shall be construed as creating any limitations on the power of the Board to adopt such other compensatory arrangements for Service Providers as it may deem desirable.

18.9 Governing Law. The Plan, and all agreements hereunder, shall be construed in accordance with and governed by the laws of the State of Delaware, other than its laws respecting choice or conflicts of law rule or principles that might otherwise refer construction or interpretation of the Plan to the substantive law of another jurisdiction. Unless otherwise provided in the Award Agreement, Grantees are deemed to submit to the exclusive jurisdiction and venue of the federal or state courts of the State of Delaware, to resolve any and all issues that may arise out of or relate to the Plan or any related Award Agreement.

18.10 Unfunded Status of Awards; Creation of Trusts. The Plan is intended to constitute an “unfunded” plan for incentive and deferred compensation. With respect to any payments not yet made to a Grantee pursuant to an Award, nothing contained in the Plan or any Award Agreement shall give any such Grantee any rights that are greater than those of a general creditor of the Company; provided, however, that the Committee may authorize the creation of trusts or make other arrangements to meet the Company’s obligations under the Plan to deliver cash, Shares or other property pursuant to any Award which trusts or other arrangements shall be consistent with the “unfunded” status of the Plan unless the Committee otherwise determines.

18.11 Affiliation. Nothing in the Plan or an Award Agreement shall interfere with or limit in any way the right of the Company or any Affiliate to terminate any Grantee’s employment or consulting contract at any time, nor confer upon any Grantee the right to continue to be an Employee, Consultant or Director.

18.12 Participation. No Person shall have the right to be selected to receive an Award under this Plan or, having been so selected, to be selected to receive a future Award.

18.13 Military Service. Awards shall be administered in accordance with Section 414(u) of the Code and the Uniformed Services Employment and Reemployment Rights Act of 1994.

18.14 Construction. The following rules of construction will apply to the Plan: (a) the word “or” is disjunctive but not necessarily exclusive, and (b) words in the singular include the plural, words in the plural include the singular, and words in the neuter gender include the masculine and feminine genders and words in the masculine or feminine gender include the other neuter genders.

18.15 Headings. The headings of articles and sections are included solely for convenience of reference, and if there is any conflict between such headings and the text of this Plan, the text shall control.

18.16 Obligations. Unless otherwise specified in the Award Agreement, the obligation to deliver, pay or transfer any amount of money or other property pursuant to Awards under this Plan shall be the sole obligation of a Grantee’s employer; provided that the obligation to deliver or transfer any Shares pursuant to Awards under this Plan shall be the sole obligation of the Company.

18.17 No Right to Continue as Director. Nothing in the Plan or any Award Agreement shall confer upon any Non-Employee Director the right to continue to serve as a Director.

18.18 Stockholder Approval. All Incentive Stock Options granted on or after the Effective Date and prior to the date the Company's stockholders approve the Plan are expressly conditioned upon and subject to approval of the Plan by the Company's stockholders.

**CERTIFICATION PURSUANT TO
18 U.S.C. SECTION 1350, AS ADOPTED PURSUANT TO
SECTION 906 OF THE SARBANES-OXLEY ACT OF 2002**

In connection with the Quarterly Report of SAB Biotherapeutics, Inc. (the “Company”) on Form 10-Q for the period ending June 30, 2024 as filed with the Securities and Exchange Commission on the date hereof (the “Report”), I certify, pursuant to 18 U.S.C. § 1350, as adopted pursuant to § 906 of the Sarbanes-Oxley Act of 2002, that:

- (1) The Report fully complies with the requirements of section 13(a) or 15(d) of the Securities Exchange Act of 1934; and
- (2) The information contained in the Report fairly presents, in all material respects, the financial condition and results of operations of the Company.

Date: August 8, 2024

By: _____
/s/ Mark W. Conley
Mark W. Conley
Interim Chief Financial Officer
(Principal Financial and Accounting Officer)
