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, 2025

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	**85-3899721**
(State or other jurisdiction of incorporation or organization)	**(I.R.S. Employer Identification No.)**
777 W 41st St, Suite 401	
Miami Beach, Florida	**33140**
(Address of principal executive offices)	**(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	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☒

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 1, 2025, the registrant had 10,411,061 shares of common stock, $0.0001 par value per share, outstanding.

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PART I—FINANCIAL INFORMATION

Item 1. Condensed Consolidated Financial Statements (Unaudited).

SAB Biotherapeutics, Inc. and Subsidiaries
Condensed Consolidated Balance Sheets

	June 30, 2025	December 31, 2024
Assets		
Current assets		
Cash and cash equivalents	$ 3,692,217	$ 8,897,966
Short-term investments	2,021,335	11,862,746
Accrued interest receivable	—	54,955
Prepaid expenses and other current assets	3,594,569	2,976,562
Total current assets	9,308,121	23,792,229
Deferred issuance cost	261,105	261,105
Long-term prepaid assets	156,381	220,997
Operating lease right-of-use assets	3,006,354	970,294
Financing lease right-of-use assets	3,539,423	3,582,835
Property, plant and equipment, net	13,858,104	15,368,009
Total assets	**$ 30,129,488**	**$ 44,195,469**
Liabilities and Stockholders' Equity		
Current liabilities		
Notes payable	$ —	$ 275,849
Accounts payable	2,622,357	1,694,722
Accrued expenses and other current liabilities	7,091,760	5,473,036
Operating lease liabilities, current portion	815,064	393,430
Finance lease liabilities, current portion	148,156	142,563
Total current liabilities	10,677,337	7,979,600
Operating lease liabilities, noncurrent	2,255,008	581,148
Finance lease liabilities, noncurrent	3,200,416	3,275,919
Warrant liabilities	1,980,512	6,389,226
Total liabilities	18,113,273	18,225,893
Commitments and contingencies (Note 18)		
Stockholders' equity		
Preferred stock; $0.0001 par value; 10,000,000 shares authorized, 42,019 shares issued and outstanding at June 30, 2025 and December 31, 2024, respectively	5	5
Common stock; $0.0001 par value; 800,000,000 shares authorized at June 30, 2025 and December 31, 2024, respectively; 9,346,362 and 9,343,533 shares issued at June 30, 2025 and December 31, 2024, respectively, and 9,291,697 and 9,288,868 outstanding at June 30, 2025 and December 31, 2024, respectively	936	935
Treasury stock, at cost; 54,665 shares held at June 30, 2025 and December 31, 2024, respectively	(5,521,246)	(5,521,246)
Additional paid-in capital	157,032,218	155,794,142
Accumulated other comprehensive loss	(15,805)	(135,410)
Accumulated deficit	(139,479,893)	(124,168,850)
Total stockholders' equity	12,016,215	25,969,576
Total liabilities and stockholders' equity	**$ 30,129,488**	**$ 44,195,469**

See accompanying notes to the condensed consolidated financial statements

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

	For The Three Months Ended June 30,		For The Six Months Ended June 30,	
	2025	**2024**	**2025**	**2024**
Revenue				
Grant revenue	$ —	$ 263,137	$ —	$ 1,207,712
Total revenue	—	263,137	—	1,207,712
Operating expenses				
Research and development	6,996,660	6,822,198	14,653,981	14,769,253
General and administrative	2,735,401	3,642,637	5,850,182	8,030,773
Total operating expenses	9,732,061	10,464,835	20,504,163	22,800,026
Loss from operations	(9,732,061)	(10,201,698)	(20,504,163)	(21,592,314)
Other income (expense)				
Changes in fair value of warrant liabilities	(627,056)	2,216,973	4,408,713	7,685,192
Interest expense	(64,345)	(93,119)	(133,910)	(169,490)
Interest income	13,562	374,557	76,060	872,450
Other income	295,630	367,832	842,257	842,962
Total other income (expense)	(382,209)	2,866,243	5,193,120	9,231,114
Net loss	$ (10,114,270)	$ (7,335,455)	$ (15,311,043)	$ (12,361,200)
Other comprehensive income (loss):				
Unrealized gain (loss), change in fair value of available-for-sale securities, net of tax	$ 328	$ 12,463	$ (647)	$ (43,598)
Foreign currency translation	$ 95,460	19,632	120,252	(14,175)
Total comprehensive loss	$ (10,018,482)	$ (7,303,360)	$ (15,191,438)	$ (12,418,973)
Loss per common share attributable to the Company's shareholders				
Basic and diluted loss per common share	$ (1.09)	$ (0.79)	$ (1.65)	$ (1.34)
Weighted-average common shares outstanding – basic and diluted	9,294,469	9,255,025	9,293,018	9,248,503

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			Treasury Stock				
	Shares	Amount	Shares	Amount	Additional Paid-In Capital	Shares	Amount	Accumulated Deficit	Accumulated Other Comprehensive Income (Loss)	Total Stockholders' Equity
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 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**
Balance at December 31, 2024	**9,343,533**	**$ 935**	**42,019**	**$ 5**	**$ 155,794,142**	**(54,665)**	**$ (5,521,246)**	**$ (124,168,850)**	**$ (135,410)**	**$ 25,969,576**
Stock-based compensation	—	—	—	—	612,951	—	—	—	—	612,951
Issuance of common stock pursuant to vesting of restricted stock units	2,829	1	—	—	(1)	—	—	—	—	—
Payment of taxes withheld on issuance of restricted stock units	—	—	—	—	(2,072)	—	—	—	—	(2,072)
Net loss	—	—	—	—	—	—	—	(5,196,773)	—	(5,196,773)
Foreign currency translation	—	—	—	—	—	—	—	—	24,792	24,792
Unrealized loss, change in fair value of available-for-sale securities	—	—	—	—	—	—	—	—	(975)	(975)
Balance at March 31, 2025	**9,346,362**	**$ 936**	**42,019**	**$ 5**	**$ 156,405,020**	**(54,665)**	**$ (5,521,246)**	**$ (129,365,623)**	**$ (111,593)**	**$ 21,407,499**
Stock-based compensation	—	—	—	—	627,198	—	—	—	—	627,198
Net loss	—	—	—	—	—	—	—	(10,114,270)	—	(10,114,270)
Foreign currency translation	—	—	—	—	—	—	—	—	95,460	95,460
Unrealized gain, change in fair value of available-for-sale securities	—	—	—	—	—	—	—	—	328	328
Balance at June 30, 2025	**9,346,362**	**936**	**42,019**	**5**	**157,032,218**	**(54,665)**	**(5,521,246)**	**(139,479,893)**	**(15,805)**	**12,016,215**

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,	
	2025	**2024**
Cash flows from operating activities:		
Net loss	$ (15,311,043)	$ (12,361,200)
Adjustments to reconcile net loss to net cash used in operating activities:		
Depreciation and amortization	1,509,406	2,996,610
Amortization of finance right-of-use assets	43,412	43,412
Stock-based compensation expense	1,240,149	1,218,878
Net realized and unrealized gain on equity securities	(1,209)	—
Changes in fair value of warrant liabilities	(4,408,713)	(7,685,192)
Accretion of discounts on short-term investments	(28,086)	(169,393)
Changes in operating assets and liabilities		
Accrued interest receivable	54,955	(224,924)
Prepaid expenses and other current assets	(553,279)	398,389
Operating lease right-of-use assets and liabilities, net	59,435	(28,462)
Accounts payable	822,342	198,320
Deferred grant income	—	(1,207,712)
Accrued expense and other current liabilities	1,623,870	(1,646,516)
Net cash used in operating activities	**(14,948,761)**	**(18,467,790)**
Cash flows from investing activities:		
Proceeds from the sale of equipment	500	—
Purchases of equipment	—	(181,585)
Purchases of investment securities	(122,924)	(31,335,142)
Sales and maturities of investments	9,991,364	11,376,337
Net cash provided by (used in) investing activities	**9,868,940**	**(20,140,390)**
Cash flows from financing activities:		
Payment of deferred issuance costs	—	(236,105)
Principal payments of notes payable	(275,846)	(435,031)
Principal payments on finance leases	(69,911)	(64,733)
Proceeds from exercise of stock options	—	20,412
Tax payments for share settlement of restricted stock units	(2,072)	—
Net cash used in financing activities	**(347,829)**	**(715,457)**
Effect of exchange rate changes on cash and cash equivalents	221,901	13
Net decrease in cash and cash equivalents	(5,205,749)	(39,323,624)
Cash and cash equivalents		
Beginning of period	8,897,966	56,566,066
End of period	$ 3,692,217	$ 17,242,442
Supplemental cash flow information:		
Cash paid for interest	$ 134,811	$ 149,102
Supplemental information on non-cash investing and finance activities:		
Right-of-use assets obtained in exchange for operating lease liabilities	$ 2,422,191	$ 368,425

See accompanying notes to the condensed consolidated financial statements.

(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 recognized $0.3 million and $0.8 million in tax credit income for the three and six months ended June 30, 2025, respectively, and $0.3 million and $0.6 million for the three and six months ended June 30, 2024, respectively.

Liquidity

The Company has experienced net losses, negative cash flows from operations and, as of June 30, 2025, had an accumulated deficit of $139.5 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.

On July 21, 2025, the Company entered into a securities purchase agreement (the "July 2025 Purchase Agreement") with certain accredited investors, pursuant to which the Company agreed to issue and sell, in the a private placement offering (the "Series B Offering"), (i) 1,000,000 shares (the "Series B Shares") of the Company's newly-designated Series B Convertible Preferred Stock (the "Series B Preferred Stock"), convertible into 100,000,000 shares of the Company's common stock (the "Series B Conversion Shares"), (ii) Release Date purchase warrants (the "Release Date Warrants") to purchase up to 500,000 shares of Series B Preferred Stock (the "Release Date Warrant Shares"), and (iii) Enrollment Date purchase warrants (the "Enrollment Date Warrants", and together with the Release Date Warrants, the "July 2025 Warrants") to purchase up to 1,000,000 shares of Series B Preferred Stock (together with the Release Date Warrant Shares, the "July 2025 Warrant Shares"). The Company generated approximately $175 million in gross proceeds, before fees and expenses, from the Series B Offering. Each share of Series B Preferred Stock is convertible into 100 shares of common stock, subject to stockholder approval. The net proceeds are intended to fund the Phase 2b SAFEGUARD study of SAB-142 and for general corporate purposes. See Note 20, *Subsequent Events*, for further information about the Series B Offering.

Based on the Company's current level of operating expenses, existing resources will be sufficient to cover operating cash needs through the twelve months following the date of this report. 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.

(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 unaudited condensed consolidated financial statements have been prepared in accordance with generally accepted accounting principles accepted in the United States of America ("GAAP") for interim financial statements and the rules of the Securities and Exchange Commission ("SEC") applicable to interim financial statements. Certain information or footnote disclosures normally included in financial statements prepared in accordance with GAAP have been condensed or omitted, pursuant to the rules and regulations of the SEC for interim financial reporting. Accordingly, they do not include all the information and footnotes necessary for a complete presentation of financial position, results of operations, or cash flows. The accompanying unaudited condensed consolidated financial statements have been prepared by management without audit and should be read in conjunction with our audited consolidated financial statements, including the notes thereto, appearing in our Annual Report on Form 10-K for the fiscal year ended December 31, 2024. In the opinion of management, all adjustments necessary for a fair presentation of the consolidated financial position, consolidated results of operations and other comprehensive loss and consolidated cash flows, for the periods indicated, have been made. The results of operations for the three months ended June 30, 2025 are not necessarily indicative of operating results that may be achieved over the course of the full year.

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., Diversity Therapeutics, Inc., SAB LLC, 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 par value of $0.0001 per share (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 (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, 2025 and December 31, 2024, the Company had $261 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*.

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 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, 2025, the Company's short-term investments consisted of investments in exchange traded mutual funds. The Company classifies these securities as current. 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 statements 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 statements 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. The Company records an allowance for credit losses on available-for-sale debt securities when a decline in fair value is determined to be credit-related, rather than recording a direct write-down of the investment's amortized cost. Factors considered in determining whether an unrealized loss is the result credit-related 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, 2025 and 2024.

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, 2025 and 2024.

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, 2025 and 2024, 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 result in material changes 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, 2025 and 2024, 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, 2025 and 2024.

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 sheets. 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)" 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 loss for the three and six months ended June 30, 2025 and 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.

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 and comprehensive loss.

(3) New accounting standards

Accounting Pronouncements Not Yet Adopted

In November 2024, the FASB issued ASU 2024-03, "Income Statement-Reporting Comprehensive Income-Expense Disaggregation Disclosures (Topic 220)". ASU 2024-03 requires additional disclosure in the notes to financial statements of specified information

about certain expenses such as purchases of inventory, employee compensation, depreciation, intangible asset amortization, and depreciation and other expenses which are presented in the face of the income statement within continuing operations. This ASU is effective for annual periods beginning after December 15, 2026, and interim periods within annual periods beginning after December 15, 2027, with early adoption permitted. The Company is currently evaluating the impact of adopting this ASU on its condensed consolidated financial statements and disclosures.

(4) Revenue

Government grants

There was no revenue recognized for the three and six months ended June 30, 2025. Total revenue recognized from government grants was approximately $0.3 million and $1.2 million for the three and six months ended June 30, 2024, respectively. The Company had various grants from the US Department of Defense that terminated in 2022. The Company satisfied all obligations under these arrangements as of December 31, 2024.

(5) Earnings per share

Since the Company reported a net loss for the three and six months ended June 30, 2025 and 2024, it was required by ASC 260 to use basic weighted-average shares outstanding when calculating diluted net loss per share for the three and six months ended June 30, 2025 and 2024, as the potential dilutive securities are anti-dilutive.

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, 2025 and 2024:

	For The Three Months Ended June 30,		For The Six Months Ended June 30,	
	2025	2024	2025	2024
Calculation of basic and diluted loss per share attributable to the Company's shareholders				
Net loss attributable to the Company's shareholders	$ (10,114,270)	$ (7,335,455)	$ (15,311,043)	$ (12,361,200)
Weighted-average common shares outstanding – basic and diluted	9,294,469	9,255,025	9,293,018	9,248,503
Net loss per share, basic and diluted	$ (1.09)	$ (0.79)	$ (1.65)	$ (1.34)

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,	
	2025	2024
Stock options and awards	2,958,026	1,926,100
Convertible Debt	—	41,159
Common Stock Warrants (1)	2,233,407	2,233,407
Series A Preferred Stock (2)	6,669,742	6,704,122
Preferred Stock Warrants (3)	17,002,381	23,803,334
Contingently issuable Earnout Shares from unexercised Rollover Options	150,806	150,806
Total	29,014,362	34,858,928

(1) Contained within common stock warrants are the 575,000 shares of common stock underlying public warrants (the "Public Warrants"), 20,860 shares of common stock underlying warrants held by assignees of Big Cypress Holdings, LLC (the "Private Placement Warrants"), 30,000 shares underlying warrants held by Ladenburg Thalmann & Co. Inc. (the "Ladenburg Warrants"), 736,337 shares underlying warrants issued to the investors in the December 2022 Private Placement (the "the PIPE Warrants"), 21,091 shares underlying warrants issued to the placement agent in the December

2022 Private Placement (the "PIPE Placement Agent Warrants"), and 850,119 shares underlying the 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 6,669,742 and 6,704,122 shares of common stock underlying 42,019 and 42,236 issued, outstanding, and convertible shares of Series A-2 Preferred Stock for the six months ended June 30, 2025 and 2024, respectively. See Note 10, *Stockholders' Equity* for further details on the Company's preferred stock.

(3) Represents 17,002,381 shares of common stock underlying 107,115 outstanding Preferred Tranche C Warrants (as defined below) for the six months ended June 30, 2025, and 6,800,953 and 17,002,381 common shares underlying 42,846 outstanding Preferred Tranche B Warrants (as defined below) and 107,115 outstanding Tranche C Warrants, respectively, for the six months ended June 30, 2024. See Note 12, *Warrants* for further details on the Company's outstanding warrants.

(6) Property, plant and equipment

As of June 30, 2025 and December 31, 2024, the Company's property, plant and equipment was as follows:

	June 30, 2025	December 31, 2024
Laboratory equipment (1)	$ 11,344,007	$ 11,344,007
Animal facility leasehold improvements	8,357,667	8,357,667
Animal facility equipment	1,188,854	1,188,854
Leasehold improvements (1)	7,064,721	7,064,721
Vehicles	201,590	208,453
Office furniture and equipment (1)	1,778,231	1,778,231
Total Property, plant and equipment, gross	29,935,070	29,941,933
Less: accumulated depreciation and amortization	(16,076,966)	(14,573,924)
Property, plant and equipment, net	$ 13,858,104	$ 15,368,009

Depreciation and amortization expense was $0.8 million and $1.5 million for the three and six months ended June 30, 2025 and $1.0 million and $3.0 million for the three and six months ended June 30, 2024, respectively.

(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 was renewed in January 2025 for a five-year-term ending on December 31, 2029. This lease can be terminated with one-year advance written notice and does not include an option to extend beyond the life of the current term. The lease costs are approximately $50 thousand per month through 2025, with an annual increase of 2% through 2029. The lease does not provide an implicit rate, and, therefore, the Company used an IBR of 9.90% as the discount rate when measuring the operating lease liability. 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, as amended in July 2022, and renewed in November 2023. This renewed 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 was unclear as to whether or not the location will meet the Company's requirements beyond the next three years. The lease costs are $31 thousand per month for the November 2023 lease renewal. The Company used an IBR of 8.14% as the discount rate when measuring the operating lease liability for the November 2023 lease renewal. 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.

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, 2025 and December 31, 2024 are:

	June 30, 2025		December 31, 2024	
	Operating	Finance	Operating	Finance
Weighted-average remaining lease term (years)	3.99	13.42	2.85	13.92
Weighted-average discount rate (percentage)	9.39%	7.72%	7.76%	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, 2025:

	Operating	Finance
2025 - remaining	$ 527,541	$ 200,748
2026	1,007,016	401,496
2027	712,653	401,496
2028	728,650	401,496
2029	708,990	401,496
Thereafter	—	3,580,006
Undiscounted future minimum lease payments	3,684,850	5,386,738
Less: Amount representing interest payments	(614,778)	(2,038,166)
Total lease liabilities	3,070,072	3,348,572
Less current portion	(815,064)	(148,156)
Noncurrent lease liabilities	$ 2,255,008	$ 3,200,416

Operating lease expense was approximately $268 thousand and $536 thousand for the three and six months ended June 30, 2025, respectively, and $228 thousand and $448 thousand for the three and six months ended June 30, 2024, respectively. Operating lease costs are included within research and development expenses on the condensed consolidated statements of operations and comprehensive loss.

Finance lease costs for the three and six months ended June 30, 2025 included approximately $22 thousand and $43 thousand, respectively, in right-of-use asset amortization and approximately $65 thousand and $130 thousand, respectively, of interest expense.

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 are included within research and development expenses on the condensed consolidated statements of operations and comprehensive loss.

Cash payments under operating leases were approximately $263 thousand and $476 thousand for the three and six months ended June 30, 2025, respectively. Cash payments under finance leases were approximately $100 thousand and $201 thousand for the three and six months ended June 30, 2025, respectively.

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

(8) Accrued Expenses and Other Current Liabilities

As of June 30, 2025 and December 31, 2024, accrued expenses and other current liabilities consisted of the following:

	June 30, 2025	December 31, 2024
Payroll and employee-related costs	$ 5,085,498	$ 4,170,381
Accrued research and development expenses	808,363	237,164
Accrued legal fees	264,224	42,159
Accrued financing fees payable	213,000	479,250
Accrued interest	21,542	22,443
Other accrued expenses	699,133	521,639
	$ 7,091,760	$ 5,473,036

(9) Notes Payable

Insurance Financing Note

We obtained financing for certain Director & Officer liability insurance policy premiums. In 2024, we entered into an agreement that assigned to AFCO Direct (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 under the current insurance financing agreement are approximately $516 thousand for AFCO Direct, with an annual interest rate of 7.37%. In consideration of the premium payment by the Lender to the insurance companies or the Agent or Broker (as defined in the agreement with the Lender), we unconditionally promise to pay the Lender the amount financed plus interest and other charges permitted under the agreement.

The Company did not have an insurance financing note payable at June 30, 2025. At December 31, 2024, the Company recognized approximately $276 thousand, as an insurance financing note payable in the Company's consolidated balance sheets. The Company incurred $1 thousand and $6 thousand of interest expense related to the insurance financing note for the three and six months ended June 30, 2025, respectively, and $4 thousand and $12 thousand for the three and six months ended June 30, 2024, respectively. The Company's current insurance financing agreement was repaid through installment payments, with the final payment on June 22, 2025.

In 2023, the Company entered into an agreement with First Insurance Funding, which assigned them a first-priority lien on the security interest in the financed policies and associated rights. During the six months ended June 30, 2024, the Company made payments on the prior insurance financing agreement with First Insurance Funding with an original principal balance of $765 thousand and an annual interest rate of 7.96%. This prior agreement, structured with similar lien and collateral terms, was fully repaid upon the final installment on September 22, 2024.

(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 and Warrants

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 (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, (iii) tranche B warrants to acquire shares of Series A-3 Preferred Stock, par value $0.0001 per share (the "Preferred Tranche B Warrants"), and (iv) tranche C warrants to purchase Series A-3 Preferred Stock, par value $0.0001 per share (the "Preferred Tranche C Warrants" and together with the Preferred Tranche A Warrants, and Preferred Tranche B Warrants,

the "Preferred Warrants"). The Series A-1 Preferred Stock, Series A-2 Preferred Stock, and Series A-3 Preferred Stock are collectively referred to in this section as the "Series A Preferred Stock."

During the fourth quarter of 2023, holders exercised Preferred Tranche A Warrants to purchase an aggregate of 59,654 shares of Series A-1 Preferred Stock for gross proceeds of approximately $59.65 million. Unexercised Preferred Tranche A Warrants, together with the associated Tranche B Warrants, were forfeited or cancelled in accordance with the terms of the September 2023 Purchase Agreement. Preferred Tranche C Warrants remain outstanding and exercisable until the five (5) year anniversary of their exercisability date.

The Company issued an aggregate of 67,154 shares of Series A-1 Preferred Stock in connection with the September 2023 Offering and the exercise of the Preferred Tranche A Warrants.

Following receipt of required stockholder approval, 24,918 shares of Series A-1 Preferred Stock were automatically converted into an aggregate of 3,954,674 shares of common stock at a conversion price of $6.30 per share (approximately 158.8 shares of common stock for each share of Series A-1 Preferred Stock). The remaining 42,236 shares of Series A-1 Preferred Stock were converted into an equal number of shares of Series A-2 Preferred Stock, which are convertible into common stock at the same conversion price of $6.30 per share, subject to certain beneficial ownership limitations as set forth in the Certificate of Designation of Preferences, Rights and Limitations of the Series A Convertible Voting Preferred Stock (the "Certificate of Designation"). During the twelve months ended December 31, 2024, 217 shares of Series A-2 Preferred Stock were converted into 34,445 shares of common stock.

Holders of Series A Preferred Stock are entitled to receive dividends on an as-converted-to-common-stock basis and to vote together with holders of common stock, subject to a beneficial ownership blocker of either 4.99% or 9.99%, as elected by each holder.

For additional information regarding the Company's outstanding warrants, refer to 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 1,049,194 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

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 six months ended June 30, 2025, the Company did not offer or sell any shares of common stock pursuant to the Sales Agreement, and up to $20,000,000 remains to be sold under the Sales Agreement.

Reverse Stock Split

On January 5, 2024, the Company consummated a 1-for-10 reverse split of the Company's common stock (the "Reverse Stock Split").

(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, 2025, there were 728,650 shares of common stock reserved for issuance under the 2014 Equity Incentive Plan, with 473,178 shares of common stock available for grant and 255,472 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 of 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 (the "Annual Increase"). 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 and increased the Annual Increase from 2% to 5% (the "2021 Plan Amendment"). As of June 30, 2025, there were 7,712,758 shares of common stock reserved for issuance under the 2021 Equity Incentive Plan, with 5,006,023 shares of common stock available for grant and 2,706,735 shares of common stock underlying outstanding grants.

The Company offers an Employee Stock Purchase Plan ("ESPP") that allows eligible employees to purchase shares of common stock at a discount of up to 15% from the lower of the fair market value at the beginning or end of the offering period. Under ASC 718, the ESPP is classified as compensatory, and stock-based compensation expense is recognized for the fair value of the discount and any embedded option features. No shares were issued under the ESPP during either the three and six months ended June 30, 2025 and 2024 and no stock-based compensation expense was recognized. As of June 30, 2025, 100,000 shares remained available for future issuance.

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, 2025 was as follows:

	Options	Weighted Average Exercise Price	Weighted Average Remaining Contractual Life (periods)	Aggregate Intrinsic Value
Outstanding options, December 31, 2024	2,967,950	$ 7.05	8.64	$ 1,186,052
Granted	25,000	$ 1.67		
Forfeited	(2,800)	$ 2.90		
Exercised	—	$ —		
Expired	(55,122)	$ 21.68		
Outstanding options, June 30, 2025	2,935,028	$ 6.73	8.30	$ 885
Options vested and exercisable, June 30, 2025	960,276	$ 12.69	7.24	$ 885

Total unrecognized compensation cost related to non-vested stock options as of June 30, 2025 was approximately $5.2 million and is expected to be recognized within future operating results over a weighted-average period of 2.58 years.

The weighted average grant date fair value of options granted during the three and six months ended June 30, 2025, was $1.44 and $1.44 per share, respectively. During the three and six months ended June 30, 2025, 115,216 options vested with a fair value totaling $0.4 million and 400,276 options vested with a fair value totaling $1.6 million, respectively.

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 $0.4 million and 114,374 options vested with a fair value totaling $1.0 million, respectively.

The estimated fair value of stock options granted to employees and consultants during the three and six months ended June 30, 2025 and 2024, were calculated using the Black-Scholes option-pricing model using the following assumptions:

	For The Three Months Ended June 30,		For The Six Months Ended June 30,	
	2025	2024	2025	2024
Expected volatility	118.6 %	90.4 %	118.6 %	89.9 - 90.4 %
Weighted-average volatility	118.6 %	90.4 %	118.6 %	89.9 %
Expected dividends	— %	— %	— %	— %
Expected term (in periods)	5.73	6.08	5.73	5.73 - 6.08
Risk-free rate	3.97 %	4.27 %	3.97 %	4.26 - 4.32 %

Restricted Stock

Stock award activity for employees and non-employees under the Equity Compensation Plans for the six months ended June 30, 2025 was as follows:

	Number of shares	Weighted Average Grant Date Fair Value
Unvested as of December 31, 2024	31,362	$ 10.33
Vested and issued as of June 30, 2025	(4,183)	$ 11.56
Vested and unissued	(4,181)	$ 11.56
Unvested as of June 30, 2025	22,998	$ 9.89

At June 30, 2025, the Company had an aggregate of $212 thousand of unrecognized equity-based compensation related to restricted stock units (“RSUs”) outstanding. During the three months ended June 30, 2025, 4,181 RSUs vested but remained unissued as of June 30, 2025, with an aggregate fair value of approximately $48 thousand. During the six months ended June 30, 2025 a total of 8,364 RSUs vested. The aggregate fair value of RSUs vested during the six-month period was approximately $97 thousand. Of the 4,183 RSUs issued, 1,354 units were withheld and returned to the Company in satisfaction of employee payroll withholding tax obligations. For the six months ended June 30, 2025, the Company issued a net total of 2,829 RSUs. The unrecognized expense for restricted stock units is expected to be recognized within future operating results over a weighted average period of 1.39 years.

Stock-based compensation expense

Stock-based compensation expense for the three and six months ended June 30, 2025 and 2024 was as follows:

	For The Three Months Ended June 30,		For The Six Months Ended June 30,	
	2025	2024	2025	2024
Research and development	$ 347,467	$ 274,317	$ 679,756	$ 490,668
General and administrative	279,731	327,116	560,393	728,210
Total	$ 627,198	$ 601,433	$ 1,240,149	$ 1,218,878

(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 (as adjusted following the Reverse Stock Split), 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.

Each warrant will expire on the fifth anniversary of the Business Combination, which occurred on October 22, 2021. As a result, all outstanding warrants will expire on October 22, 2026, unless earlier exercised or redeemed in accordance with their terms. Once expired, the warrants will have no further value and will no longer be exercisable.

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.

Each warrant will expire on the fifth anniversary of the Business Combination, which occurred on October 22, 2021. As a result, all outstanding warrants will expire on October 22, 2026, unless earlier exercised or redeemed in accordance with their terms. Once expired, the warrants will have no further value and will no longer be exercisable.

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. 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, 2025, the Company had outstanding 107,115 Preferred Tranche C Warrants to purchase shares of Series A-3 Preferred Stock for an aggregate exercise price of approximately $107.1 million.

The Preferred 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.

For more information see Note 10, *Stockholders' Equity.*

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 three months ended June 30, 2025 and 2024:

	Outstanding December 31, 2024	Warrants Issued	Warrants Exercised	Warrants Forfeited	Outstanding June 30, 2025
Transaction					
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
Preferred Tranche B Warrants (1)	42,846	—	—	42,846	—
Preferred Tranche C Warrants	107,115	—	—	—	107,115
Preferred PIPE Placement Agent Warrants	850,119	—	—	—	850,119

(1) On January 1, 2025, 42,846 Preferred Tranche B Warrants expired, unexercised. The Company recognized a gain of $3 thousand in other income in our condensed consolidated statement of operations, representing the fair value of the

warrants at expiration. The valuation as of December 31, 2024, was based on a risk-free interest rate of 3.93%, an expected remaining term of 0.23 periods, implied volatility of 75%, and an underlying stock price of $309.37.

	Outstanding December 31, 2023	Warrants Issued	Warrants Exercised	Warrants Forfeited	Outstanding June 30, 2024
Transaction					
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, 2025 and December 31, 2024. 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 six months ended June 30, 2025 and 2024.

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, 2025 and December 31, 2024 were as follows:

	June 30, 2025	December 31, 2024
Risk-free interest rate	3.86%	4.19%
Expected term remaining (periods)	1.31	1.81
Implied volatility	208.9%	160.9%
Closing common stock price on the measurement date	$ 1.76	$ 3.79

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, 2025 and December 31, 2024. 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, 2025 and 2024.

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 Preferred Tranche C Warrant as of June 30, 2025 and December 31, 2024 were as follows:

	June 30, 2025	December 31, 2024
Risk-free interest rate (1)	3.70%	4.32%
Expected term remaining (periods) (1)	3.41	3.91
Implied volatility	100.0%	95.0%
Underlying Stock Price (Preferred Series A)	$ 143.10	$ 309.37

(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 38.5% as of June 30, 2025 and December 31, 2024.

(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, 2025 and December 31, 2024, and indicate the fair value hierarchy of the valuation inputs the Company utilized to determine such fair value:

	As of June 30, 2025			
	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	$ 2,946,517	$ 2,946,517	$ —	$ —
Short-term investments				
Mutual funds	2,021,335	2,021,335	—	—
U.S. treasury securities	—	—	—	—
Liabilities:				
Public Warrant liability	$ 191,475	$ 191,475	$ —	
Private Placement Warrant liability	6,946	—	—	6,946
Preferred Warrants	1,782,091	—		1,782,091

	As of December 31, 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	$ 3,460,221	$ 3,460,221	$ —	$ —
U.S. treasury securities	3,248,959	3,248,959	—	—
Short-term investments				
Mutual funds	5,638,567	5,638,567	—	—
U.S. treasury securities	6,224,179	6,224,179	—	—
Liabilities:				
Public Warrant liability	$ 432,975	$ 432,975	$ —	
Private Placement Warrant liability	15,708	—	—	15,708
Preferred Warrants	5,940,543	—	—	5,940,543

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

Balance, December 31, 2024	$ 15,708
Change in fair value of Private Placement Warrant liability	(8,428)
Balance, March 31, 2025	7,280
Change in fair value of Private Placement Warrant liability	(334)
Balance, June 30, 2025	6,946

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

Balance, December 31, 2024	$ 5,940,543
Change in fair value of the Preferred Warrant liabilities	(4,795,042)
Balance, March 31, 2025	1,145,501
Change in fair value of the Preferred Warrant liabilities	636,590
Balance, June 30, 2025	1,782,091

As of June 30, 2025 and December 31, 2024, 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

Available-For-Sale Debt Securities

The Company held no available-for-sale debt securities as of June 30, 2025.

At December 31, 2024 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 December 31, 2024			
	Amortized Cost	Unrealized Gains		Fair Value
Short-term:				
U.S. treasury securities	$ 6,223,532	$ 1,306	$ (659)	$ 6,224,179
Total	6,223,532	1,306	(659)	6,224,179

No allowance assessment was required as of June 30, 2025, as the Company held no debt securities as of that date.

There was one security in an unrealized loss position at December 31, 2024, which has 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 December 31, 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 December 31, 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. The Company had no realized gains and losses for the six months ended June 30, 2025 and 2024.

Equity Securities

The following is a summary of unrealized and realized gains (losses) recognized on equity securities included in other income (expense) in the condensed consolidated statements of operations and comprehensive loss.

	Three Months Ended June 30,		For The Six Months Ended June 30,	
	2025	2024	2025	2024
Net gains (losses) recognized during the period	$ (3,730)	$ 7,645	$ 1,209	$ 15,169
Less: Realized net gains (losses) recognized on securities sold	13,460	—	25,333	—
Unrealized net gains (losses) recognized on securities held	$ (17,190)	$ 7,645	$ (24,124)	$ 15,169

The Company did not have an accrued interest receivable as of June 30, 2025. Accrued interest receivable related to the above investment securities was $55 thousand at December 31, 2024 and is included within accrued interest receivable on the condensed consolidated balance sheets.

(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 $4.5 million during the six months ended June 30, 2025. The Company has not recognized any reserves for uncertain tax positions.

(16) Related Party Transactions

For the three and six months ended June 30, 2025 and 2024, 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 $85 thousand and $220 thousand during the three and six months ended June 30, 2025, respectively, and $72 thousand and $229 thousand, during the three and six months ended June 30, 2024, 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) Segment Reporting

Operating segments are defined as components of the entity for which separate financial information is made available and that is regularly evaluated by the chief operating decision maker (CODM) in making decisions regarding resource allocation and assessing performance. The Company's CODM is its chief executive officer and the Company manages its operations as a single segment for the purposes of assessing performance and making operating decisions. The Company is focused on the development of a human anti-thymocyte globulin focused on preventing or delaying the progression of T1D.

The CODM assesses the Company's performance by reviewing GAAP operating expense and significant expenses by function along with the annual budget. The chief operating decision maker considers budget-to-actual variances on a quarterly basis when making decisions about the allocation of operating and capital resources.

The following table is representative of the significant expense categories regularly provided to the CODM when managing the Company's single reporting segment. A reconciliation to condensed consolidated operating expenses as our single segment operating loss for the three and six months ended June 30, 2025 and 2024 is included in the table below:

	Three Months Ended June 30,		Six Months Ended June 30,	
	2025	2024	2025	2024
Direct research and development expenses				
Research and development salaries and benefits	$ 2,707,116	$ 1,997,395	$ 5,359,010	$ 3,875,613
Clinical trial expense	1,915,850	629,607	3,843,058	1,435,667
Lab supplies and animal care	381,787	672,665	938,208	1,323,160
Lab services, consulting, and other direct research costs	433,115	1,704,146	1,375,819	3,681,027
Total direct research and development expenses	5,437,868	5,003,813	11,516,095	10,315,467
Indirect research and development expenses	1,211,325	1,544,068	2,458,130	3,963,118
Share based compensation (research and development)	347,467	274,317	679,756	490,668
Total research and development expense	6,996,660	6,822,198	14,653,981	14,769,253
General and administrative expense				
Administrative payroll	1,294,212	1,637,222	2,646,839	3,414,881
Professional fees and travel	213,609	790,194	639,247	1,442,774
Insurance, office expense, and other administrative expenses	947,849	888,104	2,003,703	2,444,908
Share based compensation (general and administrative)	279,731	327,117	560,393	728,210
Total general and administrative expenses	2,735,401	3,642,637	5,850,182	8,030,773
Total operating expense	$ 9,732,061	$ 10,464,835	$ 20,504,163	$ 22,800,026

The measure of segment assets is reported on the Condensed Consolidated Balance Sheets as Cash and cash equivalents and Short-term investments.

Long-lived assets are reported on the Condensed Consolidated Balance Sheets as Property, plant and equipment, net of accumulated depreciation and these assets are held in the U.S.

(20) Subsequent Events

On July 21, 2025, the Company entered into the July 2025 Purchase Agreement with certain accredited investors, pursuant to which the Company agreed to issue and sell, in the Series B Offering, (i) 1,000,000 Series B Shares, convertible into 100,000,000 Series B Conversion Shares, (ii) the Release Date Warrants to purchase up to 500,000 Release Date Warrant Shares and (iii) the Enrollment Date Warrants to purchase up to 1,000,000 shares of Series B Preferred Stock.

The Series B Shares and July 2025 Warrants were sold and, upon exercise the securities underlying the July 2025 Warrants and conversion of the Series B Shares, will be issued without registration under the Securities Act, in reliance on the exemptions provided by Section 4(a)(2) of the Securities Act as a transaction not involving a public offering and Rule 506 promulgated under the Securities Act as sales to accredited investors, and in reliance on similar exemptions under applicable state laws.

Pursuant to the Certificate of Designations of Preferences, Rights and Limitations of the Series B Preferred Stock (the “Series B Certificate of Designation”), each share of Series B Preferred Stock, subject to the Series B Stockholder Approval (as defined below), is convertible at the option of the holder into shares of common stock at a conversion price of $1.75 per Series B Conversion Share, subject to certain adjustments as set forth in the Series B Certificate of Designation (the “Series B Conversion Price”). Subject to the terms and limitations contained in the Series B Certificate of Designation, the Series B Preferred Stock will not become convertible until the Company’s stockholders approve the issuance of all shares of common stock issuable upon conversion of the Series B Preferred Stock (inclusive of the maximum number of shares of Series B Preferred Stock issuable upon exercise of the July 2025

Warrants) (the "Series B Stockholder Approval") at a special meeting of stockholders, to be held in accordance with the terms of the July 2025 Purchase Agreement (the "Series B Special Meeting"). Upon receipt of the Series B Stockholder Approval, the shares of Series B Preferred Stock will convert automatically at the Series B Conversion Price, subject to a conversion cap that limits the conversion of the Series B Preferred Stock such that an investor in the Series B Offering may not beneficially own more than 4.99% (the "Maximum Percentage") of the shares of common stock that would be issued and outstanding following such conversion. An investor in the Series B Offering may decrease or increase the Maximum Percentage by written notice to the Company from time to time to any other percentage not in excess of 19.99%, provided that any increase in the Maximum Percentage will not be effective until the sixty-first (61st) day after such notice is delivered to the Company. Each whole Series B Share is accompanied by one Enrollment Date Warrant and one-half of one Release Date Warrant. The purchase price for each Series B Share and accompanying July 2025 Warrants is $175. Each Enrollment Date Warrant is exercisable at a price of $175 per share beginning upon receipt of the Series B Stockholder Approval until the earlier of (x) five years from the date of issuance and (y) the Phase II Enrollment Date (as defined in the Enrollment Date Warrant. Each Release Date Warrant is exercisable at a price of $218.75 per share beginning upon receipt of the Series B Stockholder Approval until the earlier of (x) five years from the date of issuance and (y) the Phase II Release Date (as defined in the Release Date Warrant).

In connection with the Series B Offering, the Company and each investor entered into a registration rights agreement simultaneously with the July 2025 Purchase Agreement (the "Series B Registration Rights Agreement"). Pursuant to the Series B Registration Rights Agreement, as promptly as reasonably practicable following the filing of a definitive proxy statement in connection with obtaining the Series B Stockholder Approval, but, in any event, not later than seven days thereafter (the "Series B Resale Filing Date") the Company shall file a resale registration statement on Form S-3 (or Form S-1 if Form S-3 is not available) providing for the resale by the investors in the Series B Offering of the Registrable Securities (as defined in the Registration Rights Agreement) and to use commercially reasonable efforts to cause such resale registration statement to be declared effective by the staff of the SEC following the receipt of the Series B Stockholder Approval, but no later than three (3) days following the receipt of the Series B Stockholder Approval (or, in the event that the staff of the SEC reviews and has written comments to such registration statement, within forty (40) days following the Series B Resale Filing Date). The Company further agreed to take all steps necessary to keep such registration statement effective at all times until all Registrable Securities have been resold, or there remains no Registrable Securities.

On July 21, 2025, the Company and RA Capital Healthcare Fund, L.P., an investor in the Series B Offering ("RA") entered into a letter agreement (the "Series B Letter Agreement"), whereby the Company agreed to nominate up to two individuals designated by RA (the "RA Nominees") to the Company's Board of Directors and to subsequently decrease the size of the Board of Directors by two members, such that the Board shall be comprised of nine persons. The RA Nominees shall remain on the Board of Directors, subject to the terms of the Series B Letter Agreement, until such time as RA holds less than 50% of the common stock (including common stock issuable upon conversion of Series B Preferred Stock) purchased by RA in the Series B Offering.

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"), 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 developing human, multi-specific, high-potency immunoglobulins (IgGs), without the need for human donors or convalescent plasma, to treat and prevent autoimmune disorders. Our programs are based on mechanisms of action that have achieved proof-of-concept in clinical trials in indications with significant unmet medical needs. 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, including type 1 diabetes (T1D) and other autoimmune disorders. Our internally discovered antibodies are multi-specific, meaning they are comprised of multiple human IgG (hIgG) and can bind to multiple sites on targeted immunogens, making them ideally suited to address the complexities associated with many immune-mediated disorders.

Our proprietary platform holds the potential to generate additional novel therapeutic candidates to expand our pipeline, utilizing the human immune response to generate the optimal repertoire of hIgG 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 transchromosomic cattle, or Tc Bovine, which produce hIgG. Our engineering of our production platform drives IgG1 production across our pipeline. In addition, this differentiated approach using polyclonal antibodies has no biosimilar pathway, which provides a significant barrier to competitive polyclonal approaches.

SAB-142: Our Lead Product Candidate

Our wholly owned lead product candidate, SAB-142 is a human anti-thymocyte globulin (ATG) focused on preventing or delaying the progression of T1D. SAB-142 is a first-in-class, human, multi-target ATG 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. The mechanism of action of SAB-142 has been clinically validated in numerous clinical trials with a rabbit anti-thymocyte globulin (rATG). In addition, 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 clinical trials.

We received an Investigational New Drug (IND) clearance from the FDA in May 2024 and announced positive topline data from our Phase 1 clinical trial of SAB-142 in January 2025. Next, we intend to advance SAB-142 into a Phase 2b clinical trial called the SAFEGUARD study. On May 29, 2025, the Company held a constructive Type B meeting with the FDA. The meeting followed positive topline data from a Phase 1 single-ascending dose trial in healthy volunteers for SAB-142. The primary discussion centered on questions related to all aspects of SAB-142's Phase 2b SAFEGUARD clinical trial design and chemistry, manufacturing, and controls processes. The FDA provided clear, constructive, and actionable guidance during the discussion leading to alignment on the design and advancement of our Phase 2b SAFEGUARD study. SAB confirmed its intent with the FDA to utilize the data from this study as supportive evidence for future regulatory approval.

Other Immunology Indications

T- and B-cells are multifunctional lymphocytes whose dysregulation was shown to have a central role in the pathogenesis of more than 80 autoimmune diseases, including T1D, systemic lupus erythematosus (SLE), rheumatoid arthritis (RA), multiple sclerosis (MS) and celiac disease. The therapeutic success to date of lymphocyte- mediating therapies in variety of autoimmune diseases and our in vivo and in vitro pre-clinical and Phase 1 work from SAB-142 in T1D will support direct progression into Phase 2 clinical trials in other autoimmune indications.

Since the commencement of our operations, we have devoted substantially all of our resources to research and development activities, organizing and staffing our company, business planning, raising capital, establishing and maintaining our intellectual property portfolio, conducting preclinical studies and clinical trials and providing general and administrative support for these operations.

Components of Results of Operations

Revenue

Government grants

There was no revenue recognized for the three and six months ended June 30, 2025. Total revenue recognized from government grants was approximately $0.3 million and $1.2 million for the three and six months ended June 30, 2024, respectively. The Company had various grants from the US Department of Defense that terminated in 2022. The Company satisfied all obligations under these arrangements as of December 31, 2024.

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 contract research organization ("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. Pursuant to an agreement between the Company and Fortrea Holdings Inc. ("Fortrea"). Fortrea will act as the CRO overseeing our Phase 2b efficacy and safety study for SAB-142. The study is expected to start in December 2025.

For the three and six months ended June 30, 2025 and 2024, 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.

Major components within our research and development expenses are salaries and benefits (laboratory & animal care), laboratory supplies, animal care, contract manufacturing, clinical trial expense, outside laboratory services, project consulting, and facility expense.

Research and development expenses by component for the three and six months ended June 30, 2025 and 2024:

	Three Months Ended June 30,	
	2025	2024
Salaries & benefits	$ 3,286,957	$ 2,472,180
Laboratory supplies	83,934	298,050
Animal care	67,015	174,147
Contract manufacturing	(1,534)	—
Clinical trial expense	1,915,850	629,607
Outside laboratory services	202,917	1,427,484
Project consulting	208,609	250,432
Facility expense	1,198,655	1,531,391
Other expenses	34,257	38,907
Total research and development expenses	$ 6,996,660	$ 6,822,198

	Six Months Ended June 30,	
	2025	2024
Salaries & benefits	$ 6,532,742	$ 4,765,969
Laboratory supplies	312,737	634,403
Animal care	131,496	287,536
Clinical trial expense	3,843,058	1,435,667
Outside laboratory services	921,189	3,090,639
Project consulting	389,874	530,631
Facility expense	2,353,204	3,937,427
Other expenses	169,681	86,981
Total research and development expenses	$ 14,653,981	$ 14,769,253

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 anticipate that general and administrative expenses will rise as we expand our workforce and invest in the advancement of our lead therapeutic candidate in preparation for potential commercialization. Additionally, as our operations grow in complexity and we progress toward commercialization, we may incur higher costs related to accounting, audit, legal, regulatory compliance, director and officer insurance, and investor relations. 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 and dividend income from non-interest bearing short-term investments.

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, 2025 and 2024:

	Three Months Ended June 30,	
	2025	2024
Revenue		
Grant revenue	$ —	$ 263,137
Total revenue	—	263,137
Operating expenses		
Research and development	6,996,660	6,822,198
General and administrative	2,735,401	3,642,637
Total operating expenses	9,732,061	10,464,835
Loss from operations	(9,732,061)	(10,201,698)
Other income (expense)		
Changes in fair value of warrant liabilities	(627,056)	2,216,973
Interest expense	(64,345)	(93,119)
Interest income	13,562	374,557
Other income	295,630	367,832
Total other income (expense)	(382,209)	2,866,243
Loss before income taxes	(10,114,270)	(7,335,455)
Net loss	$ (10,114,270)	$ (7,335,455)

The following tables set forth our results of operations for the six months ended June 30, 2025 and 2024:

	Six Months Ended June 30,	
	2025	2024
Revenue		
Grant revenue	$ —	$ 1,207,712
Total revenue	—	1,207,712
Operating expenses		
Research and development	14,653,981	14,769,253
General and administrative	5,850,182	8,030,773
Total operating expenses	20,504,163	22,800,026
Loss from operations	(20,504,163)	(21,592,314)
Other income (expense)		
Changes in fair value of warrant liabilities	4,408,713	7,685,192
Interest expense	(133,910)	(169,490)
Interest income	76,060	872,450
Other income	842,257	842,962
Total other income	5,193,120	9,231,114
Loss before income taxes	(15,311,043)	(12,361,200)
Net loss	$ (15,311,043)	$ (12,361,200)

Comparison of the three and six months ended June 30, 2025 and 2024

Revenue

	Three Months Ended June 30,			
	2025	2024	Change	% Change
Revenue	$ —	$ 263,137	$ (263,137)	(100.0)%
Total revenue	$ —	$ 263,137		

Revenue decreased by $0.3 million, or 100.0%, in the three months ended June 30, 2025, as compared to the three months ended June 30, 2024, due to the JPEO Rapid Response Contract Termination. There was no revenue recognized for the three months ended June 30, 2025. Included in revenues for the three months ended June 30, 2024, are closeout activities and charges of $0.3 million due to outside services for laboratory supply disposal.

	Six Months Ended June 30,			
	2025	2024	Change	% Change
Revenue	$ —	$ 1,207,712	$ (1,207,712)	(100.0)%
Total revenue	$ —	$ 1,207,712		

Revenue decreased by $1.2 million, or 100.0%, in the six months ended June 30, 2025, as compared to the six months ended June 30, 2024, due to the JPEO Rapid Response Contract Termination. There was no revenue recognized for the six months ended June 30, 2025. 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 a result of the JPEO Rapid Response Contract Termination, we do not expect to generate revenues during the development phase of our primary pipeline development target of Type 1 diabetes, which remains independently financed as we explore potential partnerships, co-development opportunities, and licensing arrangements.

Research and Development

	Three Months Ended June 30,			
	2025	2024	Change	% Change
Research and development	$ 6,996,660	$ 6,822,198	$ 174,462	2.6%
Total research and development expenses	$ 6,996,660	$ 6,822,198		

Research and development expenses increased by $0.2 million, or 2.6%, for the three months ended June 30, 2025, as compared to the three months ended June 30, 2024, primarily due to an increase in salaries and benefits (year-over-year increase of $0.8 million, 33.0%) and clinical trial costs (year-over-year increase of $1.2 million, 204.3%), offset by decreases in outside lab services (year-over-year decrease of $1.2 million, 85.8%), overhead (year-over-year decrease of $0.3 million, 16.7%), animal care (year-over-year decrease of $0.1 million, 62.4%), and laboratory supplies (year-over-year decrease of $0.2 million, 71.8%). We expect Research and Development expenses to increase in future years as we advance our lead therapeutic candidate through Phase 2 clinical trials and invest in the necessary foundation to support potential commercialization.

	Six Months Ended June 30,			
	2025	2024	Change	% Change
Research and development	$ 14,653,981	$ 14,769,253	$ (115,272)	(0.8)%
Total research and development expenses	$ 14,653,981	$ 14,769,253		

Research and development expenses decreased by $0.1 million, or 0.8% for the six months ended June 30, 2025, as compared to the six months ended June 30, 2024. The year-over-year change includes a decreases in outside lab services (year-over-year decrease of $2.2 million, 70.2%), overhead (year-over-year decrease of $1.5 million, 26.5%), project consulting (year-over-year decrease of $0.1 million, 26.5%), laboratory supplies (year-over-year decrease of $0.3 million, 50.7%), animal care (year-over-year decrease of $0.1 million, 54.5%), offset by an increase in salaries and benefits (year-over-year increase of $1.7 million, 37.1%) and clinical trial costs (year-over-year increase of $2.4 million, (167.7%). We expect Research and Development expenses to increase in future years as we advance our lead therapeutic candidate through Phase 2 clinical trials and invest in the necessary foundation to support potential commercialization.

General and Administrative

	Three Months Ended June 30,			
	2025	2024	Change	% Change
General and administrative	$ 2,735,401	$ 3,642,637	$ (907,236)	(24.9)%
Total general and administrative expenses	$ 2,735,401	$ 3,642,637		

General and administrative expenses decreased by $0.9 million, or 24.9%, in the three months ended June 30, 2025, as compared to the three months ended June 30, 2024, primarily due to salaries and benefits (year-over-year decrease of $0.4 million, 19.9%), insurance costs (year-over-year decrease of $0.1 million, 19.7%), other immaterial administrative support fees relating to IT and human resources (year-over-year decrease of $0.6 million, 51.7%), offset by an increase in project consulting (year-over-year increase of $0.2 million, 103.2%).

	Six Months Ended June 30,			
	2025	2024	Change	% Change
General and administrative	$ 5,850,182	$ 8,030,773	$ (2,180,591)	(27.2)%
Total general and administrative expenses	$ 5,850,182	$ 8,030,773		

General and administrative expenses decreased by $2.2 million, or 27.2%, in the six months ended June 30, 2025, as compared to the six months ended June 30, 2024, primarily due to salaries and benefits (year-over-year decrease of $0.9 million, 22.6%), insurance costs (year-over-year decrease of $0.2 million, 22.6%) and other immaterial administrative support fees relating to IT and human resources (year-over-year decrease of $1.2 million, 42.5%) offset by an increase in project consulting (year-over-year decrease of $0.1 million, 15.6%).

While administrative support and non-capitalized financing costs declined as of June 30, 2025, as compared to June 30, 2024, we anticipate that general and administrative expenses will rise as we expand our workforce and invest in the advancement of our lead therapeutic candidate in preparation for potential commercialization. Additionally, as our operations grow in complexity and we progress toward commercialization, we may incur higher costs related to accounting, audit, legal, regulatory compliance, director and officer insurance, and investor relations.

Non-operating Income

	Three Months Ended June 30,			
	2025	2024	Change	% Change
Changes in fair value of warrant liabilities	$ (627,056)	$ 2,216,973	$ (2,844,029)	(128.3)%
Other income	295,630	367,832	(72,202)	(19.6)%
Total non-operating income	$ (331,426)	$ 2,584,805		

Total non-operating income decreased by $2.9 million, or 112.8%, in the three months ended June 30, 2025, as compared to the three months ended June 30, 2024, primarily due to the change in fair value of warrant liabilities (year-over-year decrease of $2.8 million 128.3%), and a net decrease of $0.1 million in the Australian research and development tax credit and dividend income.

	Six Months Ended June 30,			
	2025	2024	Change	% Change
Changes in fair value of warrant liabilities	$ 4,408,713	$ 7,685,192	$ (3,276,479)	(42.63)%
Other income	842,257	842,962	(705)	(0.08)%
Total non-operating income (expense)	$ 5,250,970	$ 8,528,154		

Total non-operating income decreased by $3.3 million, or (38.43)%, in the six months ended June 30, 2025, as compared to the six months ended June 30, 2024, primarily due to the change in fair value of warrant liabilities (year-over-year decrease of $3.3 million, 42.6%). The Australian research and development tax credit and dividend income for the six months ended June 30, 2025 was consistent with the Australian research and development tax credit and dividend income for the six months ended June 30, 2024.

Interest Expense

	Three Months Ended June 30,			
	2025	2024	Change	% Change
Interest expense	$ 64,345	$ 93,119	$ (28,774)	(30.9)%
Total interest expense	$ 64,345	$ 93,119		

Interest expense in the three months ended June 30, 2025 was consistent with interest expense in the three months ended June 30, 2024.

	Six Months Ended June 30,			
	2025	2024	Change	% Change
Interest expense	$ 133,910	$ 169,490	$ (35,580)	(20.99)%
Total interest expense	$ 133,910	$ 169,490		

Interest expense in the six months ended June 30, 2025 was consistent with interest expense in the six months ended June 30, 2024.

Interest Income

	Three Months Ended June 30,			
	2025	2024	Change	% Change
Interest income	$ 13,562	$ 374,557	$ (360,995)	(96.38)%
Total interest income	$ 13,562	$ 374,557		

Interest income decreased by $0.4 million, or 96.4%, during the three months ended June 30, 2025, as compared to the three months ended June 30, 2024, primarily due to interest earned on our investments in debt securities, and lower interest earning cash, and cash equivalent balances.

	Six Months Ended June 30,			
	2025	2024	Change	% Change
Interest income	$ 76,060	$ 872,450	$ (796,390)	(91.28)%
Total interest income	$ 76,060	$ 872,450		

Interest income decreased by $0.8 million, or (91.28)%, during the six months ended June 30, 2025, as compared to the six months ended June 30, 2024, primarily due to interest earned on our investments in debt securities, and lower interest earning cash, and cash equivalent balances.

Future interest income will be largely dependent on our total liquid cash and investment balances, which are in turn influenced by our capital resources and future fundraising activities.

Liquidity and Capital Resources

The Company has experienced net losses, negative cash flows from operations and, as of June 30, 2025, had an accumulated deficit of $139.5 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.

On July 21, 2025, the Company entered into the July 2025 Purchase Agreement with certain accredited investors, pursuant to which the Company agreed to issue and sell, in the Series B Offering, (i) 1,000,000 Series B Shares, convertible into 100,000,000 Series B Conversion Shares, (ii) the Release Date Warrants to purchase up to 500,000 the Release Date Warrant Shares, and (iii) the Enrollment Date Warrants to purchase up to 1,000,000 Release Date Warrant Shares. The Company generated approximately $175 million in gross proceeds, before fees and expenses, from the Series B Offering. The Series B Preferred Stock is convertible into common stock, subject to stockholder approval. The net proceeds are intended to fund the Phase 2b SAFEGUARD study of SAB-142 and for general corporate purposes.

See Note20, *Subsequent Events,* in our condensed consolidated financial statements for more information about the Series B Offering.

Based on the Company's current level of operating expenses, existing resources will be sufficient to cover operating cash needs through the twelve months following the date of this report. 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.

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

Insurance Financing Note

We obtained financing for certain Director & Officer liability insurance policy premiums. In 2024, we entered into an agreement that assigned to AFCO Direct (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 under the current insurance financing agreement are approximately $516 thousand, for AFCO Direct with an annual interest rate of 7.37%. In consideration of the premium payment by the Lender to the insurance companies or the Agent or Broker (as defined in the agreement with the Lender), we unconditionally promise to pay the Lender the amount financed plus interest and other charges permitted under the agreement.

We did not have an insurance financing note payable at June 30, 2025. At December 31, 2024, we recognized approximately $276 thousand, as an insurance financing note payable in our condensed consolidated balance sheets. We incurred $1 thousand and $6 thousand of interest expense related to the insurance financing note for the three and six months ended June 30, 2025, respectively, and $4 thousand and $12 thousand for the three and six months ended June 30, 2024, respectively. Our current insurance financing agreement was repaid through installment payments, with the final payment on June 22, 2025.

In 2023, we entered into an agreement with First Insurance Funding, which assigned them a first-priority lien on the security interest in the financed policies and associated rights. During the six months ended June 30, 2024, we made payments on the prior insurance financing agreement with First Insurance Funding with an original principal balance of $765 thousand and an annual interest rate of 7.96%. This prior agreement, structured with similar lien and collateral terms, was fully repaid upon the final installment on September 22, 2024

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

Shelf Registration Statement

On May 3, 2023, we filed a Registration Statement on Form S-3 (Registration No. 333-271768) (the "Shelf Registration Statement"), declared effective on May 17, 2025 by the SEC, which includes a base prospectus that allows us to offer and sell, from time to time, in one or more offerings, common stock, preferred stock, debt securities, warrants, rights or units up to an aggregate public offering price of $50.0 million. The Shelf Registration Statement is intended to preserve our flexibility to raise capital from time to time, if and when needed. On January 26, 2024, we entered into a Controlled Equity Offering℠ Sales Agreement (the "Sales Agreement") with Cantor Fitzgerald & Co. ("Cantor"), relating to shares of our common stock registered for sale under the Shelf Registration Statement. In accordance with the terms of the Sales Agreement, we may offer and sell shares of our common stock having an aggregate offering price of up to $20.0 million from time to time through Cantor, acting as our sales agent.

Cash Flows

The following table summarizes our cash flows for the six months ended June 30, 2025 and 2024:

	Six Months Ended June 30,	
	2025	2024
Net cash used in operating activities	$ (14,948,761)	$ (18,467,790)
Net cash provided by (used in) investing activities	9,868,940	(20,140,390)
Net cash used in financing activities	(347,829)	(715,457)
Effect of exchange rate changes on cash and cash equivalents	221,901	13
Net decrease in cash and cash equivalents	$ (5,205,749)	$ (39,323,624)

Operating Activities

Net cash used in operating activities decreased by $3.5 million in the six months ended June 30, 2025, as compared to the six months ended June 30, 2024, primarily due to a decrease in cash used in operating activities related to change in our operating assets and liabilities of $4.5 million, offset by an increase in our net loss adjusted for non-cash items of $1.0 million. Year-over-year changes in cash used by operating activities is explained by shifts in the 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 decreased by $30.0 million in the six months ended June 30, 2025, as compared to the six months ended June 30, 2024, primarily due to decreased purchases of short-term investments. Capital expenditures were minimal through the

six months ended June 30, 2025. We do not anticipate a significant increase in capital asset purchases in the near term, as our investment focus remains on advancing our lead therapeutic candidate through Phase 2 clinical trials.

Financing Activities

Net cash used by financing activities decreased by $0.4 million in the six months ended June 30, 2025, as compared to the six months ended June 30, 2024, primarily due to the decrease in payments on the insurance financing note.

Contractual Obligations and Commitments

We enter into contracts in the normal course of business with third parties, including contract research organizations ("CRO").

As of June 30, 2025, 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 we do 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 $4.5 million during the six months ended June 30, 2025. We have not recognized any reserves for uncertain tax positions.

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.

Our most critical accounting estimates and assumptions are included in our Annual Report on Form 10-K for the year ended December 31, 2024 filed with the SEC on March 31, 2025 and our most recent Quarterly Report on Form 10-Q for the quarter ended March 31, 2025, filed with the SEC on May 9, 2025. There have been no significant changes to our critical accounting policies during the three months ended June 30, 2025. See Note 2, *Summary of Significant Accounting Policies,* to our condensed consolidated financial statements for further details.

JOBS Act Accounting Election

The Jumpstart Our Business Startups ("JOBS") Act, enacted in April 2012, permits an "emerging growth company" such as us to take advantage of an extended transition period to comply with new or revised accounting standards applicable to public companies until those standards would otherwise apply to private companies. We have and intend to continue to take advantage of all of the reduced reporting requirements and exemptions, including the longer phase-in periods for the adoption of new or revised financial accounting standards, for an emerging growth company under Section 107 of the JOBS Act.

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

The Company recognized no revenue for the three and six months ended June 30, 2025. We received 100% of our total revenue through grants from government organizations for the three and six months ended June 30, 2024, respectively. To date, no receivables have been written off.

Interest Rate Risk

As of June 30, 2025 and December 31, 2024, we had cash, cash equivalents, U.S. treasury securities, investments in exchange traded mutual funds, and money market funds of $5.7 million and $20.8 million, respectively, all of which was maintained in bank accounts, money market funds, mutual 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, 2025 and December 31, 2024, 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, 2025, our Chief Executive Officer and Chief Financial Officer have concluded that the Company’s disclosure controls and procedures were effective as of June 30, 2025.

Changes in Internal Control Over Financial Reporting

There were no changes in our internal control over financial reporting that occurred during the six months ended June 30, 2025, 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, 2024, filed with the SEC on March 31, 2025, which we strongly encourage you to review (the "2024 Annual Report"). Other than as set forth below, there have been no material changes from the risk factors described in our 2024 Annual Report.

We are obligated to file a registration statement to register for resale the shares of common stock issuable upon conversion of all shares of Series B Preferred Stock, including shares of Series B Preferred Stock issuable upon the exercise of warrants. The sale of such underlying shares of common stock would represent the sale of a significant number of our securities in the public market, and the perception that such sales may occur, may cause the market price of our securities to decline significantly.

In connection with the Series B Offering, we are obligated to file a registration statement to register for sale all shares of common stock issuable upon conversion of all shares of Series B Preferred Stock, including shares of Series B Preferred Stock issuable upon exercise of the Enrollment Date Warrants and Release Date Warrants. If all shares of Series B Preferred Stock are converted, it would represent 2,690% of total common stock outstanding as of June 30, 2025. The registration of these securities, the sale of these securities in the public market, or the perception that holders of a large number of securities intend to sell their securities, could reduce the market price of our common stock and public warrants. Although each stockholder for whom the shares of common stock to be registered for resale hereunder is not permitted to convert their shares of Series B Preferred Stock into shares of common stock to the extent that after giving effect to such conversion, such holder would (together with such holder's affiliates and related parties) beneficially own in excess of 4.99% (or 9.99% at the election of the holder) of the shares of common stock outstanding immediately after giving effect to such conversion, the market price of our common stock could decline if the holders of such shares sell them over time or are perceived by the market as intending to sell them.

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.

Rule 10b5-1 Trading Plans

During the six months ended June 30, 2025, none of the Company's directors or officers (as defined in Rule 16a-1(f) of the Exchange Act) adopted, terminated or modified a Rule 10b5-1 trading arrangement or non-Rule 10b5-1 trading arrangement (as such terms are defined in Item 408 of Regulation S-K of the Securities Act.).

Item 6. Exhibits.

Exhibit Number	Description	Schedule/ Form	File No.	Exhibit	Filing Date
3.1	Certificate of Designations of Preferences, Rights and Limitations of the Series B Convertible Non-Voting Preferred Stock	8-K	001-39871	3.1	July 21, 2025
4.1	Form of Preferred Warrant	8-K	001-39871	4.1	July 21, 2025
4.2	Form of Preferred Warrant	8-K	001-39871	4.2	July 21, 2025
10.1	Form of Securities Purchase Agreement, dated July 21, 2025 by and among SAB Biotherapeutics, Inc. and the purchasers named therein	8-K	001-39871	10.1	July 21, 2025
10.2	Form of Registration Rights Agreement, dated July 21, 2025 by and among SAB Biotherapeutics, Inc. and the holders named therein	8-K	001-39871	10.2	July 21, 2025
10.3	Form of Support Agreement, dated July 21, 2025 by and among SAB Biotherapeutics, Inc. and the holders named therein	8-K	001-39871	10.3	July 21, 2025
10.4	Letter Agreement, dated July 21, 2025 by and between SAB Biotherapeutics, Inc. and RA Capital Healthcare Fund, L.P	8-K	001-39871	10.4	July 21, 2025
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.

** The certifications attached as Exhibits 32.1 and 32.2 that accompany this Quarterly Report are not deemed filed with the SEC and are not to be incorporated by reference into any filing of SAB Biotherapeutics, Inc. under the Securities Act of 1933 or the Securities Exchange Act of 1934, whether made before or after the date of this Quarterly Report, irrespective of any general incorporation language contained in such filing.

¥ 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 7, 2025

By: */s/ Samuel J. Reich*

Samuel J. Reich
Chair and Chief Executive Officer
(Principal Executive Officer)

By: */s/ Lucy To*

Lucy To
Chief Financial Officer
(Principal Financial Officer and Principal Accounting Officer)

Exhibit 31.1

CERTIFICATION 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

I, Samuel J. Reich, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of SAB Biotherapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a–15(f) and 15d–15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

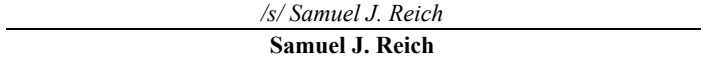
   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 7, 2025

By: **

Samuel J. Reich
Chief Executive Officer
(Principal Executive Officer)

Exhibit 31.2

CERTIFICATION 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

I, Lucy To, certify that:

1. I have reviewed this Quarterly Report on Form 10-Q of SAB Biotherapeutics, Inc.;

2. Based on my knowledge, this report does not contain any untrue statement of a material fact or omit to state a material fact necessary to make the statements made, in light of the circumstances under which such statements were made, not misleading with respect to the period covered by this report;

3. Based on my knowledge, the financial statements, and other financial information included in this report, fairly present in all material respects the financial condition, results of operations and cash flows of the registrant as of, and for, the periods presented in this report;

4. The registrant's other certifying officer and I are responsible for establishing and maintaining disclosure controls and procedures (as defined in Exchange Act Rules 13a-15(e) and 15d-15(e)) and internal control over financial reporting (as defined in Exchange Act Rules 13a–15(f) and 15d–15(f)) for the registrant and have:

   (a) Designed such disclosure controls and procedures, or caused such disclosure controls and procedures to be designed under our supervision, to ensure that material information relating to the registrant, including its consolidated subsidiaries, is made known to us by others within those entities, particularly during the period in which this report is being prepared;

   (b) Designed such internal control over financial reporting, or caused such internal control over financial reporting to be designed under our supervision, to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with generally accepted accounting principles;

   (c) Evaluated the effectiveness of the registrant's disclosure controls and procedures and presented in this report our conclusions about the effectiveness of the disclosure controls and procedures, as of the end of the period covered by this report based on such evaluation; and

   (d) Disclosed in this report any change in the registrant's internal control over financial reporting that occurred during the registrant's most recent fiscal quarter (the registrant's fourth fiscal quarter in the case of an annual report) that has materially affected, or is reasonably likely to materially affect, the registrant's internal control over financial reporting; and

5. The registrant's other certifying officer(s) and I have disclosed, based on our most recent evaluation of internal control over financial reporting, to the registrant's auditors and the audit committee of the registrant's board of directors (or persons performing the equivalent functions):

   (a) All significant deficiencies and material weaknesses in the design or operation of internal control over financial reporting which are reasonably likely to adversely affect the registrant's ability to record, process, summarize and report financial information; and

   (b) Any fraud, whether or not material, that involves management or other employees who have a significant role in the registrant's internal control over financial reporting.

Date: August 7, 2025

By: /s/ *Lucy To*

Lucy To
Chief Financial Officer
(Principal Financial and Accounting Officer)

Exhibit 32.1

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, 2025 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 7, 2025

By: */s/ Samuel J. Reich*

Samuel J. Reich
Chief Executive Officer
(Principal Executive Officer)

Exhibit 32.2

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, 2025 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 7, 2025

By: /s/ *Lucy To*

Lucy To
Chief Financial Officer
(Principal Financial and Accounting Officer)