

UNITED STATES  
SECURITIES AND EXCHANGE COMMISSION  
Washington, D.C. 20549

POST-EFFECTIVE AMENDMENT NO. 2  
TO FORM S-1 ON FORM S-3  
REGISTRATION STATEMENT  
UNDER  
THE SECURITIES ACT OF 1933

**SAB BIOTHERAPEUTICS, INC.**

(Exact name of registrant as specified in its charter)

**Delaware**

(State or other jurisdiction of  
incorporation or organization)

**85-3899721**

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

**2100 East 54th Street North**  
**Sioux Falls, South Dakota 57104**  
**Telephone: 605-679-6980**

(Address, including zip code, and telephone number, including area code, of registrant's principal executive offices)

**Eddie J. Sullivan, PhD**  
**President and Chief Executive Officer**  
**SAB Biotherapeutics, Inc.**  
**2100 East 54th Street North**  
**Sioux Falls, South Dakota 57104**

**Telephone: 605-679-6980** (Name, address, including zip code, and telephone number, including area code, of agent for service)

*Copy to:*

**Brian Lee, Esq.**  
**Ilan Katz, Esq.**  
**Dentons US LLP**  
**1221 Avenue of the Americas**  
**New York, NY 10020**  
**(212) 768-6700**

**Approximate date of commencement of proposed sale to the public:** From time to time after the effective date of this registration statement.

If the only securities being registered on this Form are being offered pursuant to dividend or interest reinvestment plans, please check the following box

If any of the securities being registered on this Form are to be offered on a delayed or continuous basis pursuant to Rule 415 under the Securities Act of 1933, other than securities offered only in connection with dividend or interest reinvestment plans, check the following box

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If this Form is filed to register additional securities for an offering pursuant to Rule 462(b) under the Securities Act, please check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a post-effective amendment filed pursuant to Rule 462(c) under the Securities Act, check the following box and list the Securities Act registration statement number of the earlier effective registration statement for the same offering.

If this Form is a registration statement pursuant to General Instruction I.D. or a post-effective amendment thereto that shall become effective upon filing with the Commission pursuant to Rule 462(e) under the Securities Act, please check the following box.

If this Form is a post-effective amendment to a registration statement filed pursuant to General Instruction I.D. filed to register additional securities or additional classes of securities pursuant to Rule 413(b) under the Securities Act, check the following box.

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

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

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 7(a)(2)(B) of Securities Act.

**The registrant hereby amends this registration statement on such date or dates as may be necessary to delay its effective date until the registrant shall file a further amendment which specifically states that this registration statement shall thereafter become effective in accordance with Section 8(a) of the Securities Act of 1933 or until the registration statement shall become effective on such date as the Commission, acting pursuant to said Section 8(a), may determine.**

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## EXPLANATORY NOTE

On December 3, 2021, SAB Biotherapeutics, Inc. (“SAB,” the “Company,” “we,” “us” or “our”) filed a registration statement on Form S-1 (File No. 333-261496) (the “Original Resale Registration Statement”) with the Securities and Exchange Commission (the “SEC”). The Original Resale Registration Statement was initially declared effective by the SEC on December 15, 2021.

This registration statement on Form S-3 constitutes a post-effective amendment to the Original Registration Statement. We are filing this post-effective amendment on Form S-3 for the purpose of (i) converting the Original Registration Statement on Form S-1 into a registration statement on Form S-3 because we are now eligible to use Form S-3 and (ii) include updated information regarding the Selling Holders named therein, including a reduction in the aggregate number of shares of Common Stock being offered by the selling securityholders. This registration statement on Form S-3 contains an updated prospectus related to the offering and sale of the shares that were registered for resale on the Original Registration Statements.

All filing fees payable in connection with the registration of the shares registered by the Original Registration Statements on Form S-1 were paid by the registrant at the time of the initial filing of such registration statements. **No additional securities are registered hereby.**

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**The information in this prospectus is not complete and may be changed. We may not sell these securities until the registration statement filed with the Securities and Exchange Commission is effective. This prospectus is not an offer to sell these securities, and we are not soliciting offers to buy these securities, in any state or other jurisdiction where the offer or sale is not permitted.**

**SUBJECT TO COMPLETION, DATED FEBRUARY 3, 2023**

**PRELIMINARY PROSPECTUS**

**Up to 9,960,241 Shares of Common Stock  
Up to 5,958,600 Shares of Common Stock Issuable Upon Exercise of Warrants**

**SAB Biotherapeutics, Inc.**

This prospectus relates to the issuance by us of an aggregate of up to 5,958,600 shares of our common stock, \$0.0001 par value per share (the “Common Stock”), which consists of (i) the issuance of up to 208,600 shares of Common Stock upon exercise of 208,600 warrants issued in a private placement to Big Cypress Holdings LLC (the “Sponsor”), in connection with the initial public offering of Big Cypress Acquisition Corp. (the “Private Placement Warrants”), and (ii) the issuance of up to 5,750,000 shares of Common Stock issuable upon exercise of 5,750,000 warrants issued in the initial public offering of Big Cypress Acquisition Corp. (the “Public Warrants,” and, together with the Private Placement Warrants, the “Warrants”). We will receive the proceeds from the exercise of any Warrants for cash. This prospectus also relates to the offer and sale from time to time of up to 9,960,241 shares of Common Stock by the selling securityholders named in this prospectus or their permitted transferees (the “selling securityholders”), which consists of (i) 756,298 shares issued in a private placement to the Sponsor pursuant to the Securities Subscription Agreement, dated November 12, 2020, (ii) 8,712,045 shares issued to Christine Hamilton, Director of SAB Biotherapeutics, Inc. (the “Company”), (iii) 244,373 shares issued to Ladenburg Thalmann & Co. Inc. (“Ladenburg”) and certain of its employees, and (iv) 247,525 shares issued to Chardan Capital Markets LLC (“Chardan”) and certain of its employees and designees. We will not receive any proceeds from the sale of shares by the selling securityholders pursuant to this prospectus. We are registering the securities held by the selling securityholders for resale pursuant to that certain amended and restated registration rights agreement dated October 23, 2021 between us and the selling securityholders.

This prospectus describes the general manner in which the shares may be offered and sold by the selling stockholders. If necessary, the specific manner in which the shares may be offered and sold will be described in a supplement to this prospectus. Any such prospectus supplement may also add, update or change information in this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with this offering. You should carefully read this prospectus, any applicable prospectus supplement and any related free writing prospectuses, as well as the documents incorporated by reference or deemed to be incorporated by reference into this prospectus, carefully before you invest. For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution” in this prospectus.

Our common stock is traded on the Nasdaq Global Market under the symbol “SABS.” On February 2, 2023, the closing price of our common stock on the Nasdaq Global Market was \$0.74 per share.

**We are an “emerging growth company” under applicable federal securities laws and are subject to reduced public company reporting requirements.**

**Investing in our common stock involves a high degree of risk. You should review carefully the risks and uncertainties referenced under the heading “Risk Factors” on page 5 of this prospectus and contained in our filings made with the Securities and Exchange Commission and any applicable prospectus supplement.**

**NEITHER THE SECURITIES AND EXCHANGE COMMISSION NOR ANY STATE SECURITIES COMMISSION HAS APPROVED OR DISAPPROVED OF THESE SECURITIES OR PASSED UPON THE ACCURACY OR ADEQUACY OF THIS PROSPECTUS. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.**

**The date of this prospectus is     , 2023**

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## ABOUT THIS PROSPECTUS

In this prospectus, unless the context suggests otherwise, references to “SAB Biotherapeutics,” “SAB,” the “Company,” “we,” “us” and “our” refer to SAB Biotherapeutics, Inc.

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission, or the SEC, utilizing a “shelf” registration process. This prospectus describes the general manner in which the selling stockholders identified in this prospectus may offer from time to time in one or more transactions up to 15,918,841 shares of our common stock. We will not receive any proceeds from the sale by such selling securityholders of the securities offered by them described in this prospectus.

This prospectus only provides you with a general description of the common stock that may be sold in these transactions. If necessary, the specific manner in which the shares of common stock may be offered and sold will be described in a supplement to this prospectus, which supplement may also add, update or change any of the information contained in this prospectus. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to this offering. This prospectus does not contain all of the information included in the registration statement we filed with the SEC. For further information about us or the common stock offered hereby, you should carefully read this prospectus, any applicable prospectus supplement, any related free writing prospectuses, the information and documents incorporated herein by reference and the additional information under the heading “Where You Can Find More Information” before making an investment decision.

You should rely only on the information contained or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectuses that we may authorize to be provided to you. We have not authorized any other person to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. **This prospectus and any accompanying supplement to this prospectus are not an offer to sell the common stock and it is not soliciting an offer to buy the common stock in any jurisdiction where the offer or sale is not permitted.** You should assume that the information appearing in this prospectus, any applicable prospectus supplement or any related free writing prospectuses, as well as information we have previously filed with the SEC, and incorporated by reference, is accurate only as of the date on the cover of those documents. If any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus—the statement in the document having the later date modifies or supersedes the earlier statement as our business, financial condition, results of operations and prospects may have changed since the earlier dates. To the extent there are inconsistencies between any prospectus supplement, this prospectus and/or any documents incorporated by reference, the document with the most recent date will control.

## PROSPECTUS SUMMARY

*This summary highlights information contained elsewhere in this prospectus and does not contain all of the information that you should consider in making your investment decision. Before investing in our securities, you should carefully read the risks and uncertainties referenced under the heading “Risk Factors” on page 5 of this prospectus and contained in our filings made with the SEC and any applicable prospectus supplement”*

### Overview

We are a clinical-stage biopharmaceutical company focused on the development of powerful and proprietary immunotherapeutic polyclonal human antibodies to treat and prevent infectious diseases and immune and autoimmune disorders. Our development programs include infectious diseases resulting from outbreaks and pandemics, as well as immunological, gastroenterological, and respiratory diseases that have significant mortality and health impacts on immunocompromised patients. Using private resources and more than \$200 million of funds awarded by the U.S. Government emerging disease and medical countermeasures programs since September 2019, we have developed a novel drug development platform, which we refer to as our DiversitAb platform. This platform is based on the power of the human immune system and has the unique capability to generate large quantities of specifically targeted, high-potency, fully-human natural polyclonal antibodies without the need for convalescent plasma or human donors. Over a span of two decades, our founding scientists have refined, optimized, and advanced genetic engineering and antibody science to develop transchromosomal cattle (which we refer to as Tc Bovine) that produce fully-human antibodies. These Tc Bovine form a key component of our versatile DiversitAb platform.

We are leveraging our DiversitAb platform to discover and develop product candidates with the potential to be first-in-class against novel targets or best-in-class against known, complex targets that treat diseases with significant unmet medical needs, including infectious and respiratory diseases, immune and autoimmune disorders, and oncology.

### Recent Milestones

Since September 2019, we have achieved multiple milestones, including:

- Established proof-of-concept for our DiversitAb platform.
- Fully enrolled Phase 2a challenge study for SAB-176 in adults infected with influenza virus.
- Advanced to Phase 3 of NIH-Sponsored ACTIV-2 Trial based upon DSMB at interim analysis for SAB-185 (COVID-19) and reached 50% enrollment.
- Announced topline data demonstrating that SAB-176 met its primary endpoint in our Phase 2a challenge study in adults infected with influenza virus.
- Announced that recent data demonstrated that SAB-185 retains neutralization activity against the Omicron variant of SARS-CoV-2 in an in vitro pseudovirus model.
- Reported positive topline Phase 2 virology data demonstrating SAB-185 met criteria for advancement to Phase 3.

### Summary of Risk Factors

Below is a summary of material factors that make an investment in our securities speculative or risky. Importantly, this summary does not address all of the risks and uncertainties that we face. Additional discussion of the risks and uncertainties summarized in this risk factor summary, as well as other risks and uncertainties that we face, can be found under the section titled “Risk Factors” in this prospectus. The below summary is qualified in its entirety by that more complete discussion of such risks and uncertainties. You should consider carefully the risks and uncertainties described under the section titled “Risk Factors” as part of your evaluation of an investment in our securities:

- We are a clinical-stage biopharmaceutical company and have incurred significant losses since our inception. We realized net loss in the fiscal year ended December 31, 2021, we may incur losses for the foreseeable future and may not be able to generate sufficient revenue to maintain profitability.

- Our limited operating history makes future forecasting difficult.
- All of our product candidates are in preclinical or clinical development. Clinical drug development is expensive, time consuming and uncertain, and we may ultimately not be able to obtain regulatory approvals for the commercialization of some or all of our product candidates.
- The regulatory approval processes of the U.S. Food and Drug Administration (FDA) and comparable foreign authorities are lengthy, time consuming and inherently unpredictable, and if we are ultimately unable to obtain regulatory approval for our product candidates, our business will be substantially harmed.
- Regulatory approval for the genetic modification of animals, including those from which antibodies are isolated for injection into human patients, requires the approval of a New Animal Drug Application, and if we are ultimately unable to obtain such approval, our business will be substantially harmed.
- We are highly dependent on the success of our product candidates and if we are unable to successfully complete clinical development, obtain regulatory approval for or commercialize one or more of our product candidates, or if we experience delays in doing so, our business will be materially harmed.
- If our clinical trials fail to replicate positive results from earlier preclinical studies or clinical trials conducted by us or third parties, we may be unable to successfully develop, obtain regulatory approval for or commercialize our product candidates.
- The future commercial success of our product candidates will depend on the degree of market acceptance of our potential products among physicians, patients, healthcare payers, and the medical community.
- Failure to successfully identify, develop and commercialize additional products or product candidates could impair our ability to grow.
- We depend upon senior management and senior scientific staff, and their loss or unavailability could put us at a competitive disadvantage.
- We rely on third parties to perform some of our research and preclinical studies and we plan to rely on third parties to conduct our clinical trials. If these third parties do not satisfactorily carry out their contractual duties or fail to meet expected deadlines, our development programs may be delayed or subject to increased costs, each of which may have an adverse effect on our business and prospects.
- We intend to rely on third parties to produce commercial supplies of our product candidates.
- We are subject to manufacturing risks that could substantially increase the costs and limit supply of product candidates or prevent us from achieving a commercially viable production process.
- If we fail to successfully operate our animal production facility, it may adversely affect our clinical trials and the commercial viability of our product candidates.
- Outbreaks of livestock diseases and other events affecting the health of our bovine herd can adversely impact our ability to conduct our operations and production of our product candidates.
- Cyber-attacks or other failures in our telecommunications or information technology systems, or those of our collaborators, CROs, third-party logistics providers, distributors or other contractors or consultants, could result in information theft, data corruption and significant disruption of our business operations.
- We have historically relied on awards from, and contracts with, the U.S. Government to fund our business and operations, and will need to find new and alternative sources of funding following the discontinuance of certain such arrangements.
- If our competitors develop more effective competing product candidates our business will be substantially harmed.
- We are subject to stringent environmental regulation and potentially subject to environmental litigation, proceedings, and investigations.
- Our success may depend on our ability to maintain the proprietary nature of our technology.
- We may become involved in litigation to protect or enforce our patents or the patents of our collaborators or licensors, which could be expensive and time-consuming.
- If patent laws or the interpretation of patent laws change, our competitors may be able to develop and commercialize our discoveries.
- We incur increased costs and demands upon management as a result of complying with the laws and regulations affecting public companies, which could adversely affect our business, financial condition, and results of operations.



- We are an “emerging growth company,” and our election to comply with the reduced disclosure requirements as a public company may make our common stock less attractive to investors.
- If we fail to maintain an effective system of disclosure controls and internal control over financial reporting, our ability to produce timely and accurate financial statements or comply with applicable regulations could be impaired.
- The market price of our securities may be volatile, which could cause the value of any investment in our securities to decline.
- We will have broad discretion in how we use the proceeds of this offering and may not use these proceeds effectively, which could affect our results of operations and cause our stock price to decline.
- We might not be able to comply with the continued listing standards of Nasdaq.
- Sales of a substantial number of shares of our common stock in the public market could cause our stock price to fall.
- We may issue additional shares common stock (including upon the exercise of warrants or conversion of preferred stock) which would increase the number of shares eligible for future resale in the public market and result in dilution to our stockholders.
- If you purchase our common stock in this offering, you will incur immediate and substantial dilution in the book value of your shares.
- Warrants are speculative in nature, the Warrants may not have any value, and holders of the Warrants will not have any rights as a common stockholder.
- Changes in tax laws and regulations or exposure to additional tax liabilities could adversely affect our financial results.

The risks described above should be read together with the text of the full risk factors described in the section entitled “Risk Factors” and the other information set forth in this prospectus, including our consolidated financial statements and the related notes. The risks summarized above or described in this prospectus are not the only risks that we face. Additional risks and uncertainties not presently known to us, or that we currently deem to be immaterial may also materially adversely affect our business, financial condition, results of operations and future growth prospects.

### **Corporate Information**

We were incorporated in the State of Delaware on November 12, 2020, as a special purpose acquisition company under the name Big Cypress Acquisition Corp. (BCYP). On January 14, 2021, BCYP completed its initial public offering. On October 22, 2021, BCYP consummated a business combination with SAB Biotherapeutics, Inc. (the “Business Combination”), which changed its name to SAB Sciences, Inc. In connection with the closing of the business combination, BCYP changed its name to SAB Biotherapeutics, Inc. and SAB Sciences, Inc. became a subsidiary of SAB Biotherapeutics, Inc.

We and our subsidiaries own or have rights to trademarks, trade names and service marks that they use in connection with the operation of their business. In addition, their names, logos and website names and addresses are their trademarks or service marks. Other trademarks, trade names and service marks appearing in this prospectus are the property of their respective owners. Solely for convenience, in some cases, the trademarks, trade names and service marks referred to in this prospectus are listed without the applicable ®, ™ and SM symbols, but they will assert, to the fullest extent under applicable law, their rights to these trademarks, trade names and service marks.

### **Implications of Being an Emerging Growth Company and a Smaller Reporting Company**

We are an emerging growth company, as defined in the Jumpstart Our Business Startups Act of 2012, as amended, and therefore we intend to take advantage of certain exemptions from various public company reporting requirements, including not being required to have our internal control over financial reporting audited by our independent registered public accounting firm pursuant to Section 404(b) of the Sarbanes-Oxley Act of 2002, reduced disclosure obligations regarding executive compensation in this prospectus, our periodic reports and our proxy statements and exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and any golden parachute payments not previously approved. We will remain an emerging growth company until the earliest of (i) the last day of the fiscal year in which the market value of our common stock that is held by non-affiliates equals or exceeds \$700 million as of the end of that year’s second fiscal quarter, (ii) the last day of the fiscal year in which we have total annual gross revenue of \$1.235 billion or more during such fiscal year (as indexed for inflation), (iii) the date on which we have issued more than \$1 billion in non-convertible debt in the prior three-year period or (iv) December 31, 2026.

We are also a “smaller reporting company” as defined under the Securities Act of 1933, as amended (the “Securities Act”) and the Securities Exchange Act of 1934, as amended (the “Exchange Act”). We may continue to be a smaller reporting company so long as either (i) the market value of shares of our common stock held by non-affiliates is less than \$250 million or (ii) our annual revenue was less than \$100 million during the most recently completed fiscal year and the market value of shares of our common stock held by non-affiliates is less than \$700 million. If we are a smaller reporting company at the time we cease to be an emerging growth company, we may continue to rely on exemptions from certain disclosure requirements that are available to smaller reporting companies. Specifically, as a smaller reporting company, we may choose to present only the two most recent fiscal years of audited financial statements in our Annual Report on Form 10-K and have reduced disclosure obligations regarding executive compensation, and, similar to emerging growth companies, if we are a smaller reporting company under the requirements of (ii) above, we would not be required to obtain an attestation report on internal control over financial reporting issued by our independent registered public accounting firm.

## ABOUT THIS OFFERING

This prospectus relates to the resale by the selling stockholders identified in this prospectus (or their permitted transferees) of up to 15,918,841 shares of our common stock. All of the shares, when sold, will be sold by these selling stockholders. The selling stockholders may sell their shares of common stock from time to time on prices and on terms that will be determined at the time of sale. We will not receive any proceeds from the sale of the shares of common stock by the selling stockholders.

Common Stock Offered by the Selling Stockholders:	Up to 15,918,841 shares of common stock, par value \$0.0001 per share, including up to 5,958,600 shares of common stock issuable upon exercise of warrants.
Terms of the Offering:	The selling stockholders will determine when and how they sell the shares of common stock offered in this prospectus, as described in “Plan of Distribution.”
Use of Proceeds:	We will not receive any proceeds from the sale of the 15,918,841 shares of common stock by the selling stockholders under this prospectus. We will, however, bear the costs incurred in connection with the registration of these Common Shares and, upon a cash exercise of the Warrants, we will receive the exercise price of the Warrants.
Risk Factors:	An investment in the common stock offered under this prospectus involves a high degree of risk. See “Risk Factors” beginning on page 6 of this prospectus and in the documents incorporated by reference into this prospectus for a discussion of factors you should consider carefully when making an investment decision.
Nasdaq Symbol:	“SABS”.

## RISK FACTORS

Investment in our common stock involves risks. Prior to making a decision about investing in our common stock, you should consider carefully all of the information included in and incorporated by reference or deemed to be incorporated by reference in this prospectus or the applicable prospectus supplement, including the risk factors incorporated by reference herein from our Annual Report on Form 10-K for the year ended December 31, 2021, filed with the SEC on March 29, 2022, our Quarterly Report on Form 10-Q for the quarter ended March 31, 2022, filed with the SEC on May 12, 2022, our Quarterly Report on Form 10-Q for the quarter ended June 30, 2022, filed with the SEC on August 10, 2022, and our Quarterly Report on Form 10-Q for the quarter ended September 30, 2022, filed with the SEC on November 14, 2022, as updated by annual, quarterly and other reports and documents we file with the SEC after the date of this prospectus and that are incorporated by reference herein or in any applicable prospectus supplement or any free writing prospectus. Each of these risk factors could have a material adverse effect on our business, results of operations, financial position or cash flows, which may result in the loss of all or part of your investment. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently consider immaterial may also impair our business operations. If any of these risks actually occur, our business and financial results could be harmed. In that case, the trading price of our common stock or other securities could decline. To the extent a particular offering implicates additional known material risks, we will include a discussion of those risks in the applicable prospectus supplement.

## SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain statements in this prospectus constitute “forward-looking statements” for purposes of the federal securities laws. Our forward-looking statements include, but are not limited to, statements regarding our or our management team’s expectations, hopes, beliefs, intentions or strategies regarding the future. In addition, any statements that refer to projections, forecasts or other characterizations of future events or circumstances, including any underlying assumptions, are forward-looking statements. The words “anticipate,” “believe,” “contemplate,” “continue,” “could,” “estimate,” “expect,” “intends,” “may,” “might,” “plan,” “possible,” “potential,” “predict,” “project,” “should,” “will,” “would” and similar expressions may identify forward-looking statements, but the absence of these words does not mean that a statement is not forward-looking. Forward-looking statements in this prospectus may include, for example, statements about:

- the success, cost and timing of our product development activities and clinical trials, including statements regarding our plans for clinical development of our product candidates, the initiation and completion of clinical trials and related preparatory work and the expected timing of the availability of results of clinical trials;
- our ability to recruit and enroll suitable patients in our clinical trials;
- the potential indications, attributes and benefits of our product candidates;
- our ability to obtain and maintain regulatory approval for our product candidates, and any related restrictions, limitations or warnings in the label of an approved product candidate;
- our ability to obtain funding for our operations, including funding necessary to complete further development, approval and, if approved, commercialization of our product candidates;
- the period over which we anticipate our existing cash and cash equivalents will be sufficient to fund our operating expense and capital expenditure requirements;
- the potential for our business development efforts to maximize the potential value of our portfolio;
- our ability to identify, in-license or acquire additional product candidates;
- our ability to compete with other companies currently marketing or engaged in the development of treatments for the indications that we are pursuing for our product candidates;
- our expectations regarding our ability to obtain and maintain intellectual property protection for our product candidates and the duration of such protection;
- our ability to contract with and rely on third parties to assist in conducting our clinical trials and manufacturing our product candidates;
- our manufacturing capabilities, third-party contractor capabilities and strategy;
- our plans related to manufacturing, supply and other collaborative agreements;
- the size and growth potential of the markets for our product candidates, and our ability to serve those markets, either alone or in partnership with others;
- the rate and degree of market acceptance of our product candidates, if approved;
- the pricing and reimbursement of our product candidates, if approved;
- regulatory developments in the United States and foreign countries;
- the impact of laws, regulations, accounting standards, regulatory requirements, judicial decisions and guidance issued by authoritative bodies;
- our ability to attract and retain key scientific, medical, commercial or management personnel;
- our estimates regarding expenses, future revenue, capital requirements and needs for additional financing;
- our financial performance;
- our ability to maintain our listing on The Nasdaq Global Market; and
- the effect of COVID-19 on the foregoing.

Operating expenses and cash flow projections involve a high degree of uncertainty, including variances in future spending rates due to changes in corporate priorities, the timing and outcomes of clinical trials, competitive developments and the impact on expenditures and available capital from licensing and strategic collaboration opportunities. If we are unable to raise additional capital when required or on acceptable terms, we may have to significantly delay, scale back or discontinue one or more of our drug development or discovery research programs and delay or abandon potential commercialization efforts. We may not ever have any products that generate significant revenue. Therefore, current and prospective security holders are cautioned that there can be no assurance that the forward-looking statements included in this document will prove to be accurate. Biotechnology companies have suffered significant setbacks in advanced clinical trials, even after obtaining promising earlier trial results. Data obtained from such clinical trials are susceptible to varying interpretations, which could delay, limit or prevent regulatory approval. After gaining approval of a drug product, pharmaceutical and biotechnology companies face considerable challenges in marketing and distributing their products, and may never become profitable.

The forward-looking statements contained in this prospectus are based on current expectations and beliefs concerning future developments and their potential effects on us. There can be no assurance that future developments affecting us will be those that we have anticipated. These forward-looking statements involve a number of risks, uncertainties (some of which are beyond our control) or other assumptions that may cause actual results or performance to be materially different from those expressed or implied by these forward-looking statements. These risks and uncertainties include, but are not limited to, those factors described in the section titled "Risk Factors." Should one or more of these risks or uncertainties materialize, or should any of our assumptions prove incorrect, actual results may vary in material respects from those projected in these forward-looking statements. Some of these risks and uncertainties may in the future be amplified by the COVID-19 pandemic and there may be additional risks that we consider immaterial or which are unknown. It is not possible to predict or identify all such risks.

Any forward-looking statements that we make in this prospectus speak only as of the date of such statements and we undertake no obligation to publicly update any forward-looking statements or to publicly announce revisions to any of the forward-looking statements, whether as a result of new information, future events or otherwise.

You should read this prospectus completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements in this prospectus by these cautionary statements.

## USE OF PROCEEDS

We will not receive any proceeds from the sale of the 15,918,841 shares of common stock by the selling stockholders under this prospectus (and/or their respective pledgees, donees, transferees, distributees, or other successors in interest that receive such shares as a gift, partnership distribution or other non-sale related transfer), which includes 9,960,241 shares of common stock and up to 5,958,600 shares of common stock underlying warrants. We will, however, bear the costs incurred in connection with the registration of these shares of common stock and, upon the exercise of the warrants, we will receive the exercise price of the warrants. If all of the warrants were to be exercised in cash at the current exercise price of \$11.50 per share of common stock, we would receive additional gross proceeds of approximately \$68.5 million. We cannot predict when or if the warrants will be exercised. It is possible that the warrants may expire and may never be exercised.

**SELLING STOCKHOLDERS**

This prospectus relates to the resale by the selling securityholders from time to time of up to 15,918,841 shares of Common Stock, including: 5,958,600 shares of Common Stock that may be issued upon exercise of the Warrants (consisting of 5,750,000 shares that may be issued upon exercise of the Public Warrants and 208,600 shares that may be issued upon exercise of the Private Warrants), 756,298 shares of Common Stock held by the Sponsor, 244,373 shares held by Ladenburg and certain of its employees, 247,525 shares held by Chardan and certain of its employees and designees and 8,712,045 shares held by certain parties to the Amended and Restated Registration Rights Agreement. As used in this prospectus, the term “selling securityholders” includes the persons listed in the table below, together with any additional selling securityholders listed in a subsequent amendment to this prospectus, and their pledgees, donees, transferees, assignees, successors, designees and others who later come to hold any of the selling securityholders’ interests in the Common Stock or Private Placement Warrants other than through a public sale.

Except as set forth in the footnotes below, the following table sets forth, based on written representations from the selling securityholders, certain information as of January 31, 2023 regarding the beneficial ownership of our Common Stock and Warrants by the selling securityholders and the shares of Common Stock and Warrants being offered by the selling securityholders. The applicable percentage ownership of Common Stock is based on 50,397,762 shares of Common Stock outstanding as of January 31, 2023. The selling securityholders may offer and sell some, all or none of their shares of Common Stock.

We have determined beneficial ownership in accordance with the rules of the SEC. Except as indicated by the footnotes below, we believe, based on the information furnished to us, that the selling securityholders have sole voting and investment power with respect to all shares of Common Stock and Warrants that they beneficially own, subject to applicable community property laws. Except as otherwise described below, based on the information provided to us by the selling securityholders, no selling securityholder is a broker-dealer or an affiliate of a broker dealer.

Please see the section titled “*Plan of Distribution*” for further information regarding the selling securityholder’s method of distributing these shares.

Name of Selling Securityholder	Shares of Common Stock			
	Number Beneficially Owned Prior to Offering	Number Registered for Sale Hereby	Number Beneficially Owned After Offering(1)	Percent Owned After Offering(1)(2)
Big Cypress Holdings LLC (3)	756,298	756,298	—	* %
Christine Hamilton (4)	8,795,032	8,795,032	—	* %
Chardan Capital Markets LLC (5)	114,275	114,275	—	* %
Daniel Roth (6)	24,000	24,000	—	* %
Ladenburg Thalmann & Co. Inc. (7)	122,188	122,188	—	* %
Jeff Caliva (8)	24,209	24,209	—	* %
Steven Kaplan (9)	48,988	48,988	—	* %
Peter Blum (10)	48,988	48,988	—	* %
<b>TOTAL</b>	<b>9,933,978</b>	<b>9,933,978</b>	<b>—</b>	<b>* %</b>

\*Less than 1%

- (1) Assumes all of the shares of common stock offered are sold.
- (2) Based on 50,397,762 shares of our common stock outstanding on January 31, 2023. Assumes all warrants to purchase shares of common stock have been exercised and the underlying shares of common stock have been sold.
- (3) The shares reported herein includes 547,698 of shares of common stock that are subject to vesting during a period of up to five years after October 22, 2021, which is the closing date of the Issuer’s business combination. The vesting of such shares is contingent on achievement of certain stock price milestones, as further described in the Issuer’s prospectus/proxy statement filed with the SEC on September 23, 2021, which is incorporated herein by reference. Includes 208,600 warrants to purchase common stock. Samuel J. Reich is a manager of the Big Cypress Holdings LLC and Mr. Reich is Director and Executive Chairman of the Issuer.

- (4) Consists of (i) 4,993,090 shares of Common Stock held directly by Ms. Hamilton, and (ii) 145,400 shares of Common Stock underlying stock options held by Ms. Hamilton exercisable within 60 days of the date hereof, (iii) 25,000 shares of Common Stock held by Christensen Investments, LLC, (iv) 2,909,022 shares of Common Stock held by Ms. Hamilton's spouse, Dr. Edward Hamilton, (v) 465,285 shares issuable to Dr. Hamilton pursuant to options exercisable within 60 days of the date hereof, (vi) 174,248 shares of Common Stock which Ms. Hamilton co-owns with Dr. Hamilton and (vii) up to 82,987 shares underlying warrants. Ms. Hamilton disclaims any beneficial ownership of the reported securities other than to the extent of any pecuniary interests she may have therein.
- (5) The selling shareholder's address is 17 State Street, Suite 2130, New York, NY 10004.
- (6) The selling shareholder's address is 17 State Street, Suite 2130, New York, NY 10004.
- (7) The selling shareholder's address is Ladenburg Thalmann & Co., Inc. 277 Park Ave 26th Fl, New York, NY 10172.
- (8) The selling shareholder's address is c/o Ladenburg Thalmann & Co., Inc. 277 Park Ave 26th Fl, New York, NY 10172.
- (9) The selling shareholder's address is c/o Ladenburg Thalmann & Co., Inc. 277 Park Ave 26th Fl, New York, NY 10172.
- (10) The selling shareholder's address is c/o Ladenburg Thalmann & Co., Inc. 277 Park Ave 26th Fl, New York, NY 10172.

We may require the selling stockholders to suspend the sales of the common stock offered by this prospectus upon the occurrence of any event that makes any statement in this prospectus or the related registration statement untrue in any material respect or that requires the changing of statements in these documents in order to make statements in those documents not misleading.



## DESCRIPTION OF OUR SECURITIES

*The following is a summary of the rights of our securities. This summary is qualified by reference to the complete text of our amended and restated certificate of incorporation and amended and restated bylaws filed as exhibits to the registration statement of which this prospectus forms a part.*

The following summary of the material terms of our securities is not intended to be a complete summary of the rights and preferences of such securities. The descriptions below are qualified by reference to the actual text of the Amended and Restated Certificate of Incorporation. We urge you to read our Amended and Restated Certificate of Incorporation in its entirety for a complete description of the rights and preferences of our securities.

### **Authorized and Outstanding Stock**

Our authorized capital stock consists of 490,000,000 shares of common stock, \$0.0001 par value per share, and 10,000,000 shares of preferred stock, \$0.0001 par value per share. As of January 31, 2023, there were 50,397,762 shares of our common stock issued and outstanding, and no shares of preferred stock issued and outstanding. As of January 31, 2023, the Company has not designated any series of preferred stock.

### **Common Stock**

#### *Voting Power*

Except as otherwise required by law or as otherwise provided in any certificate of designation for any series of preferred stock, the holders of common stock possess all voting power for the election of our directors and all other matters requiring stockholder action. Holders of common stock are entitled to one vote per share on matters to be voted on by stockholders.

#### *Dividends*

Holders of common stock will be entitled to receive such dividends, if any, as may be declared from time to time by our board of directors in its discretion out of funds legally available therefor. In no event will any stock dividends or stock splits or combinations of stock be declared or made on common stock unless the shares of common stock at the time outstanding are treated equally and identically.

#### *Liquidation, Dissolution and Winding Up*

In the event of our voluntary or involuntary liquidation, dissolution, distribution of assets or winding-up, the holders of the common stock will be entitled to receive an equal amount per share of all of our assets of whatever kind available for distribution to stockholders, after the rights of the holders of the preferred stock have been satisfied.

#### *Preemptive or Other Rights*

Our stockholders have no preemptive or other subscription rights and there are no sinking fund or redemption provisions applicable to common stock.

#### *Election of Directors*

Our board of directors is divided into three classes, Class I, Class II and Class III, with only one class of directors being elected in each year and each class serving a three-year term, except with respect to the election of directors at the special meeting held in connection with the Business Combination, Class I directors are elected to an initial one-year term (and three-year terms subsequently), the Class II directors are elected to an initial two-year term (and three-year terms subsequently) and the Class III directors are elected to an initial three-year term (and three-year terms subsequently). There is no cumulative voting with respect to the election of directors, with the result that the holders of more than 50% of the shares voted for the election of directors can elect all of the directors.

## **Preferred Stock**

Our Amended and Restated Certificate of Incorporation provides that shares of preferred stock may be issued from time to time in one or more series. Our board of directors is authorized to fix the voting rights, if any, designations, powers and preferences, the relative, participating, optional or other special rights, and any qualifications, limitations and restrictions thereof, applicable to the shares of each series of preferred stock. The Board is able to, without stockholder approval, issue preferred stock with voting and other rights that could adversely affect the voting power and other rights of the holders of common stock and could have anti-takeover effects. The ability of our board of directors to issue preferred stock without stockholder approval could have the effect of delaying, deferring or preventing a change of control of the Company or the removal of existing management.

We have no preferred stock outstanding at the date hereof.

## **Stock Awards**

Upon the closing of the Business Combination, we assumed and converted Legacy SAB stock awards that were outstanding under Legacy SAB's equity incentive plans into stock awards to purchase an aggregate of 4,681,861 shares of common stock. As of the closing of the Business Combination, 11,000,000 shares of common stock were reserved for future issuance under our Plan, which amount may be subject to increase from time to time, and stock option awards covering 7,071,631 shares of Common Stock have been issued under our Plan as of January 31, 2023.

## **Public Warrants**

As of January 31, 2023, there were 5,958,600 warrants to purchase common stock outstanding, consisting of 5,750,000 public warrants and 208,600 private placement warrants. Each warrant entitles the registered holder to purchase one share of our common stock at a price of \$11.50 per share at any time commencing on January 14, 2022. The warrants will expire on October 22, 2026 at 5:00 p.m., New York City time, or earlier upon redemption or liquidation.

## **Warrants Issued in December 2022 Private Placement**

### ***Investor Warrants***

On December 6, 2022, the Company entered into a Securities Purchase Agreement (the "Purchase Agreement") with certain institutional and accredited investors (each individually, an "Investor," and collectively, the "Investors") for the sale by the Company of 7,363,377 shares of common stock (the "Shares") and (ii) 7,363,377 warrants to purchase shares of common stock (the "Warrants" and shares underlying the Warrants, the "Warrant Shares"), in a private placement offering (the "December 2022 Private Placement"). The combined purchase price per Share and accompanying Warrant was \$1.08. Three directors of the Company participated in the December 2022 Private Placement, each paying a \$0.125 premium per Share and accompanying Warrant. The December 2022 Private Placement closed on December 7, 2022. The Warrants, including those purchased by the participating directors of the Company are exercisable beginning six months from the date of issuance at an exercise price equal to \$1.08 per share (the "Exercise Price"), 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 payable by the Company. The Shares and Warrants were sold and issued without registration under the Securities Act of 1933, as amended (the "Securities Act"), in reliance on the exemptions provided by Section 4(a)(2) of the Securities Act as transactions not involving a public offering and Rule 506 of Regulation D promulgated under the Securities Act as sales to accredited investors, and in reliance on similar exemptions under applicable state laws.

### ***Placement Agent Warrants***

Brookline Capital Markets, a division of Arcadia Securities, LLC ("BCM") acted as the placement agent in connection with the December 2022 Private Placement. The Company paid BCM a cash fee equal to seven percent (7%) of the gross proceeds received by the Company in the December 2022 Private Placement. The Company also issued BCM a warrant (the "Placement Agent Warrant") to purchase up to an aggregate of 210,193 shares of Common Stock, equal to seven percent (7%) of the number of Shares purchased by Investors actually introduced to the Company by BCM. The Placement Agent Warrant has an exercise price equal to \$1.35 per share, is exercisable six months from the date of issuance and expires five years from the date of issuance.

## **Certain Anti-Takeover Provisions of Delaware Law**

### *Special Meetings of Stockholders*

Our Amended and Restated Bylaws provide that special meetings of our stockholders may be called only by a majority vote of the board of directors, by the Chairperson of the board of directors, or by the chief executive officer.

### *Advance Notice Requirements for Stockholder Proposals and Director Nominations*

Our Amended and Restated Bylaws provide that stockholders seeking to bring business before our annual meeting of stockholders, or to nominate candidates for election as directors at our annual meeting of stockholders, must provide timely notice of their intent in writing. To be timely under our current bylaws and the Amended and Restated Bylaws, a stockholder's notice will need to be received by the company secretary at our principal executive offices not later than the close of business on the 90th day nor earlier than the open of business on the 120th day prior to the first anniversary of the preceding year's annual meeting. Pursuant to Rule 14a-8 of the Exchange Act, proposals seeking inclusion in our annual proxy statement must comply with the notice periods contained therein. Our Amended and Restated Bylaws also specify certain requirements as to the form and content of a stockholders' meeting. These provisions may preclude our stockholders from bringing matters before our annual meeting of stockholders or from making nominations for directors at our annual meeting of stockholders.

### *Authorized but Unissued Shares*

Our authorized but unissued common stock and preferred stock are available for future issuances without stockholder approval and could be utilized for a variety of corporate purposes, including future offerings to raise additional capital, acquisitions and employee benefit plans. The existence of authorized but unissued and unreserved common stock and preferred stock could render more difficult or discourage an attempt to obtain control of us by means of a proxy contest, tender offer, merger or otherwise.

### *Exclusive Forum Selection*

The Amended and Restated Certificate of Incorporation provides that unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (subject to certain limited exceptions) shall be the sole and exclusive forum for any of the following claims (i) any derivative claim or cause of action brought on our behalf, (ii) any claim or cause of action asserting a claim of breach of a fiduciary duty owed by any director, officer or other employee of the Company to the Company or to the Company's stockholders, (iii) any claim or cause of action against us, our directors, officers or employees arising pursuant to any provision of the DGCL, the Amended and Restated Certificate of Incorporation or the Amended and Restated Bylaws, (iv) any claim or cause of action seeking to interpret, apply, enforce or determine the validity of the Amended and Restated Certificate of Incorporation or the Amended and Restated Bylaws, (v) any claim or cause of action as to which the DGCL confers jurisdiction to the Court of Chancery of the State of Delaware; and (vi) any claim or cause of action against the Company or any current or former director, officer or other employee of the Company governed by the internal affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court's having personal jurisdiction over the indispensable parties named as defendants. Any person or entity holding, owning or otherwise acquiring any interest in shares of capital stock of the Company shall be deemed to have notice of and to have consented to such provisions.

Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law in the types of lawsuits to which they apply, a court may determine that these provisions are unenforceable, and to the extent they are enforceable, the provisions may have the effect of discouraging lawsuits against our directors and officers, although our stockholders will not be deemed to have waived our compliance with federal securities laws and the rules and regulations thereunder. Additionally, we cannot be certain that a court will decide that these provisions are either applicable or enforceable, and if a court were to find the choice of forum provisions contained in our Amended and Restated Certificate of Incorporation to be inapplicable or unenforceable in an action, we may incur additional costs associated with resolving such action in other jurisdictions, which could harm our business, operating results and financial condition.

Our Amended and Restated Certificate of Incorporation provides that the exclusive forum provision will be applicable to the fullest extent permitted by applicable law. Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. As a result, the exclusive forum provision will not apply to suits brought to enforce any duty or liability created by the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. Accordingly, both state and federal courts have jurisdiction to entertain such claims. To prevent having to litigate claims in multiple jurisdictions and the threat of inconsistent or contrary rulings by different courts, among other considerations, the Proposed Charter provides that the federal district courts of the United States will be the exclusive forum for resolving any complaint asserting a cause of action arising under the Securities Act.

#### *Section 203 of the Delaware General Corporation Law*

We are subject to provisions of Section 203 of the DGCL regulating corporate takeovers under our Amended and Restated Certificate of Incorporation. This statute prevents certain Delaware corporations, under certain circumstances, from engaging in a “business combination” with:

- a stockholder who owns 15% or more of our outstanding voting stock (otherwise known as an “interested stockholder”);
- an affiliate of an interested stockholder; or
- an associate of an interested stockholder, for three years following the date that the stockholder became an interested stockholder.

A “business combination” includes a merger or sale of more than 10% of our assets. However, the above provisions of Section 203 do not apply if:

- our board of directors approves the transaction that made the stockholder an “interested stockholder,” prior to the date of the transaction;
- after the completion of the transaction that resulted in the stockholder becoming an interested stockholder, that stockholder owned at least 85% of our voting stock outstanding at the time the transaction commenced, other than statutorily excluded shares of common stock; or
- on or subsequent to the date of the transaction, our initial business combination is approved by our board of directors and authorized at a meeting of our stockholders, and not by written consent, by an affirmative vote of at least two-thirds of the outstanding voting stock not owned by the interested stockholder.

Under certain circumstances, this provision will make it more difficult for a person who would be an “interested stockholder” to effect various business combinations with the Company for a three-year period. This provision may encourage companies interested in acquiring us to negotiate in advance with our board of directors because the stockholder approval requirement would be avoided if our board of directors approves either the business combination or the transaction which results in the stockholder becoming an interested stockholder. These provisions also may have the effect of preventing changes in our board of directors and may make it more difficult to accomplish transactions which stockholders may otherwise deem to be in their best interests.

#### **Limitation on Liability and Indemnification of Directors and Officers**

The Amended and Restated Certificate of Incorporation eliminates directors’ liability for monetary damages to the fullest extent permitted by applicable law. Our Amended and Restated Certificate of Incorporation requires the Company to indemnify and advance expenses to, to the fullest extent permitted by applicable law, its directors, officers and agents and prohibit any retroactive changes to the rights or protections or increase the liability of any director in effect at the time of the alleged occurrence of any act or omission to act giving rise to liability or indemnification. We believe these provisions in our Amended and Restated Certificate of Incorporation are necessary to attract and retain qualified persons as directors and officers. However, these provisions may discourage stockholders from bringing a lawsuit against our directors for breach of their fiduciary duty. These provisions also may have the effect of reducing the likelihood of derivative litigation against directors and officers, even though such an action, if successful, might otherwise benefit us and our stockholders. Furthermore, a stockholder’s investment may be adversely affected to the extent we pay the costs of settlement and damage awards against directors and officers pursuant to these indemnification provisions.

#### **Transfer Agent**

The transfer agent for our securities is Continental Stock Transfer & Trust Company. The transfer agent’s address is One State Street Plaza, 30th Floor New York, New York 10004.

## PLAN OF DISTRIBUTION

We previously registered the issuance by us of (i) up to 5,750,000 shares of Common Stock that are issuable upon the exercise of the Public Warrants; and (ii) up to 208,600 shares of Common Stock that are issuable upon the exercise of the Private Placement Warrants.

We also previously registered the resale by the selling securityholders or their permitted transferees from time to time of up to 14,434,301 shares of Common Stock consisting of up to:

- (a) 3,047,825 shares of Common Stock issued in a private placement to the Sponsor prior to the BCYP IPO,
- (b) 10,685,978 shares of Common Stock held by our co-founder and member of the Board pursuant to that certain Amended and Restated Registration Rights Agreement,
- (c) 491,898 shares of Common Stock issued in private placements to certain advisors to the Company or their employees or designees, and
- (c) 208,600 shares of Common Stock issuable upon exercise of the Private Placement Warrants.

We are required to pay all fees and expenses incident to the registration of the securities to be offered and sold pursuant to this prospectus. The selling securityholders will bear all commissions and discounts, if any, attributable to their sale of securities.

We will not receive any of the proceeds from the sale of the securities by the selling securityholders. We will receive proceeds from Warrants exercised in the event that such Warrants are exercised for cash. The aggregate proceeds to the selling securityholders will be the purchase price of the securities less any discounts and commissions borne by such selling securityholders.

The shares of Common Stock beneficially owned by the selling securityholders covered by this prospectus may be offered and sold from time to time by the selling securityholders. The term “selling securityholders” includes donees, pledgees, transferees or other successors in interest selling securities received after the date of this prospectus from a selling securityholder as a gift, pledge, partnership distribution or other transfer. The selling securityholders will act independently of us in making decisions with respect to the timing, manner and size of each sale. Such sales may be made on one or more exchanges or in the over-the-counter market or otherwise, at prices and under terms then prevailing or at prices related to the then current market price or in negotiated transactions. The selling securityholders may sell their securities by one or more of, or a combination of, the following methods:

- purchases by a broker-dealer as principal and resale by such broker-dealer for its own account pursuant to this prospectus;
- ordinary brokerage transactions and transactions in which the broker solicits purchasers;
- block trades in which the broker-dealer so engaged will attempt to sell the shares as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- an over-the-counter distribution in accordance with the rules of Nasdaq;
- through trading plans entered into by a selling securityholder pursuant to Rule 10b5-1 under the Exchange Act that are in place at the time of an offering pursuant to this prospectus and any applicable prospectus supplement hereto that provide for periodic sales of their securities on the basis of parameters described in such trading plans;
- short sales;
- distribution to employees, members, limited partners or stockholders of the selling securityholders;

- through the writing or settlement of options or other hedging transaction, whether through an options exchange or otherwise;
- by pledge to secured debts and other obligations;
- delayed delivery arrangements;
- to or through underwriters or broker-dealers;
- in “at the market” offerings, as defined in Rule 415 under the Securities Act, at negotiated prices, at prices prevailing at the time of sale or at prices related to such prevailing market prices, including sales made directly on a national securities exchange or sales made through a market maker other than on an exchange or other similar offerings through sales agents;
- in privately negotiated transactions;
- in options transactions; or
- any other method permitted pursuant to applicable law.

In addition, any securities that qualify for sale pursuant to Rule 144 may be sold under Rule 144 rather than pursuant to this prospectus.

In addition, a selling securityholder that is an entity may elect to make an in-kind distribution of securities to its members, partners or stockholders pursuant to the registration statement of which this prospectus is a part by delivering a prospectus with a plan of distribution. Such members, partners or stockholders would thereby receive freely tradeable securities pursuant to the distribution through a registration statement. To the extent a distributee is our affiliate (or to the extent otherwise required by law), we may, at our option, file a prospectus supplement in order to permit the distributees to use the prospectus to resell the securities acquired in the distribution.

To the extent required, this prospectus may be amended or supplemented from time to time to describe a specific plan of distribution. In connection with distributions of the securities or otherwise, the selling securityholders may enter into hedging transactions with broker-dealers or other financial institutions. In connection with such transactions, broker-dealers or other financial institutions may engage in short sales of the securities in the course of hedging the positions they assume with selling securityholders. The selling securityholders may also sell the securities short and redeliver the securities to close out such short positions. The selling securityholders may also enter into option or other transactions with broker-dealers or other financial institutions that require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction). The selling securityholders may also pledge securities to a broker-dealer or other financial institution, and, upon a default, such broker-dealer or other financial institution, may effect sales of the pledged securities pursuant to this prospectus (as supplemented or amended to reflect such transaction).

In effecting sales, broker-dealers or agents engaged by the selling securityholders may arrange for other broker-dealers to participate. Broker-dealers or agents may receive commissions, discounts or concessions from the selling securityholders in amounts to be negotiated immediately prior to the sale.

In offering the securities covered by this prospectus, the selling securityholders and any broker-dealers who execute sales for the selling securityholders may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. Any profits realized by the selling securityholders and the compensation of any broker-dealer may be deemed to be underwriting discounts and commissions.

In order to comply with the securities laws of certain states, if applicable, the securities must be sold in such jurisdictions only through registered or licensed brokers or dealers. In addition, in certain states, the securities may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

We have advised the selling securityholders that the anti-manipulation rules of Regulation M under the Exchange Act may apply to sales of securities in the market and to the activities of the selling securityholders and their affiliates. In addition, we will make copies of this prospectus available to the selling securityholders for the purpose of satisfying the prospectus delivery requirements of the Securities Act. The selling securityholders may indemnify any broker-dealer that participates in transactions involving the sale of the securities against certain liabilities, including liabilities arising under the Securities Act.

At the time a particular offer of securities is made, if required, a prospectus supplement will be distributed that will set forth the number of securities being offered and the terms of the offering, including the name of any underwriter, dealer or agent, the purchase price paid by any underwriter, any discount, commission and other item constituting compensation, any discount, commission or concession allowed or reallocated or paid to any dealer, and the proposed selling price to the public.

A holder of Warrants may exercise its Warrants in accordance with the Warrant Agreement on or before the expiration date set forth therein by surrendering, at the office of the Warrant Agent, Continental Stock Transfer & Trust Company, the certificate evidencing such Warrant, with the form of election to purchase set forth thereon, properly completed and duly executed, accompanied by full payment of the exercise price and any and all applicable taxes due in connection with the exercise of the Warrant, subject to any applicable provisions relating to cashless exercises in accordance with the Warrant Agreement.

We have agreed to indemnify the selling securityholders against certain liabilities, including liabilities under the Securities Act and state securities laws, relating to the registration of the Warrants or shares of Common Stock offered by this prospectus.

We have agreed with the selling securityholders to keep the registration statement of which this prospectus constitutes a part effective until such time as all of the securities covered by this prospectus have been disposed of pursuant to and in accordance with the registration statement or such securities have been withdrawn or, in the case of shares issued pursuant to the Subscription Agreements, until two years from the effective date of this registration statement.

## LEGAL MATTERS

The validity of the common stock being offered hereby will be passed on by Dentons US LLP. Additional legal matters may be passed upon for us or any underwriters, dealers or agents, by counsel that we will name in an applicable prospectus supplement.

## EXPERTS

The consolidated financial statements of SAB Biotherapeutics Inc. as of and for the years ended December 31, 2021 and 2020, included in our Annual Report on Form 10-K for the year ended December 31, 2021, have been audited by Mayer Hoffman McCann P.C., independent registered public accounting firm, as set forth in their report, and have been incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing, in giving said reports.

## WHERE YOU CAN FIND MORE INFORMATION

This prospectus is part of the registration statement on Form S-3 we filed with the SEC under the Securities Act and does not contain all the information set forth in the registration statement. Whenever a reference is made in this prospectus to any of our contracts, agreements or other documents, the reference may not be complete and you should refer to the exhibits that are a part of the registration statement or the exhibits to the reports or other documents incorporated by reference into this prospectus for a copy of such contract, agreement or other document. Because we are subject to the information and reporting requirements of the Exchange Act, we file annual, quarterly and current reports, proxy statements and other information with the SEC. Our SEC filings are available to the public over the Internet at the SEC's website at <http://www.sec.gov>. Our website address is <http://www.acelrx.com>. Information contained on or accessible through our website is not a part of this prospectus and is not incorporated by reference herein, and the inclusion of our website address in this prospectus is an inactive textual reference only.

## INCORPORATION OF CERTAIN DOCUMENTS BY REFERENCE

The SEC allows us to “incorporate by reference” the information we file with them, which means that we can disclose important information to you by referring you to those documents. The information incorporated by reference is considered to be part of this prospectus, and information that we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents filed with the SEC listed below:

- Our Annual Report on [Form 10-K for the fiscal year ended December 31, 2021](#), filed with the SEC on March 29, 2022;
- Our Quarterly Reports on Form 10-Q, for the quarters ended [March 31, 2022](#), [June 30, 2022](#), and [September 30, 2022](#), filed with the SEC on May 12, 2022, August 10, 2022, and November 14, 2022, respectively;
- Our Current Reports on Form 8-K filed with the SEC on [January 6, 2022](#), [June 6, 2022](#), [July 11, 2022](#), [September 23, 2022](#), [September 28, 2022](#), [October 7, 2022](#), [October 13, 2022](#), [November 1, 2022](#), [November 7, 2022](#), [November 21, 2022](#), [December 12, 2022](#) and [January 27, 2023](#); and
- The description of our common stock and warrants in our registration statement on [Form 8-A filed with the SEC on January 8, 2021](#), including any amendments or reports filed for the purpose of updating such description.

In addition, all documents subsequently filed by us pursuant to Sections 13(a), 13(c), 14 and 15(d) of the Exchange Act on or after the date of this prospectus and prior to the termination of the offering of the securities to which this prospectus relates, shall be deemed to be incorporated by reference in this prospectus and to be a part hereof from the date of filing of such documents. However, any documents or portions thereof, whether specifically listed above or filed in the future, that are not deemed “filed” with the SEC, including without limitation any information furnished pursuant to Item 2.02 or 7.01 of Form 8-K or certain exhibits furnished pursuant to Item 9.01 of Form 8-K, shall not be deemed to be incorporated by reference in this prospectus.

Any statement in a document incorporated or deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purposes of this prospectus to the extent that a statement contained herein or in any other subsequently filed document which also is incorporated or deemed to be incorporated by reference herein modifies or supersedes such statement. Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this prospectus.

You can request a copy of these filings, at no cost, by writing or telephoning us at the following address or telephone number:

SAB Biotherapeutics, Inc.  
2100 East 54th Street North  
Sioux Falls, South Dakota 57104  
Attn: Corporate Secretary  
605-679-6980



**PART II****INFORMATION NOT REQUIRED IN PROSPECTUS****Item 14. Other Expenses of Issuance and Distribution.**

The following table sets forth all costs and expenses payable by us in connection with the sale of the common stock being registered hereunder. All of the amounts shown shall be paid by us and are estimates except for the SEC registration fee.

SEC Registration Fee	\$	19,760
Accounting Fees and Expenses	\$	12,500
Legal Fees and Expenses	\$	100,000
Miscellaneous fees and expenses	\$	2,500
Total	\$	<u>134,760</u>

On December 3, 2021, SAB Biotherapeutics, Inc. (“SAB,” the “Company,” “we,” “us” or “our”) filed a registration statement on Form S-1 (File No. 333-261496) (the “Original Resale Registration Statement”) with the Securities and Exchange Commission (the “SEC”). The Original Resale Registration Statement was initially declared effective by the SEC on December 15, 2021.

This registration statement on Form S-3 constitutes a post-effective amendment to the Original Registration Statement. We are filing this post-effective amendment on Form S-3 for the purpose of converting the Original Registration Statement on Form S-1 into a registration statement on Form S-3 because we are now eligible to use Form S-3. This registration statement on Form S-3 contains an updated prospectus related to the offering and sale of the shares that were registered for resale on the Original Registration Statements.

All filing fees payable in connection with the registration of the shares registered by the Original Registration Statements on Form S-1 were paid by the registrant at the time of the initial filing of such registration statements. No additional securities are registered hereby.

**Item 15. Indemnification of Directors and Officers.**

Section 145 of the DGCL provides that a corporation may indemnify directors and officers as well as other employees and individuals against expenses (including attorneys’ fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with any threatened, pending or completed actions, suits or proceedings in which such person is made a party by reason of such person being or having been a director, officer, employee or agent of the registrant. The DGCL provides that Section 145 is not exclusive of other rights to which those seeking indemnification may be entitled under any bylaws, agreement, vote of stockholders or disinterested directors or otherwise. The Registrant’s Certificate of Incorporation and Bylaws provide for indemnification by the Registrant of its directors and officers to the fullest extent permitted by the DGCL.

Section 102(b)(7) of the DGCL permits a corporation to provide in its Certificate of Incorporation that a director of the corporation shall not be personally liable to the corporation or its stockholders for monetary damages for breach of fiduciary duty as a director, except for liability (1) for any breach of the director’s duty of loyalty to the corporation or its stockholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) for unlawful payments of dividends or unlawful stock repurchases redemptions or other distributions or (4) for any transaction from which the director derived an improper personal benefit. The registrant’s Certificate of Incorporation provides for such limitation of liability to the fullest extent permitted by the DGCL.

The registrant has entered into indemnification agreements with each of its directors and executive officers to provide contractual indemnification in addition to the indemnification provided in our Certificate of Incorporation. Each indemnification agreement provides for indemnification and advancements by the registrant of certain expenses and costs relating to claims, suits or proceedings arising from his or her service to the registrant or, at our request, service to other entities, as officers or directors to the maximum extent permitted by applicable law. We believe that these provisions and agreements are necessary to attract qualified directors.

The registrant also maintains standard policies of insurance under which coverage is provided (1) to its directors and officers against loss arising from claims made by reason of breach of duty or other wrongful act, while acting directors and officers of the registrant, and (2) to the registrant with respect to payments which may be made by the Registrant to such officers and directors pursuant to any indemnification provision contained in the Registrant's Certificate of Incorporation and Bylaws or otherwise as a matter of law.

**Item 16. Exhibits.**

See the Exhibit Index attached to this registration statement and incorporated herein by this reference.

**Item 17. Undertakings.**

(a) The undersigned registrant hereby undertakes:

(1) To file, during any period in which offers or sales are being made, a post-effective amendment to this registration statement:

(i) To include any prospectus required by Section 10(a)(3) of the Securities Act of 1933;

(ii) To reflect in the prospectus any facts or events arising after the effective date of the registration statement (or the most recent post-effective amendment thereof) which, individually or in the aggregate, represent a fundamental change in the information set forth in the registration statement. Notwithstanding the foregoing, any increase or any decrease in volume of securities offered (if the total dollar value of securities offered would not exceed that which was registered) and any deviation from the low or high end of the estimated maximum offering range may be reflected in the form of prospectus filed with the Commission pursuant to Rule 424(b) if, in the aggregate, the changes in volume and price represent no more than a 20% change in the maximum aggregate offering price set forth in the "Calculation of Registration Fee" table in the effective registration statement; and

(iii) To include any material information with respect to the plan of distribution not previously disclosed in the registration statement or any material change to such information in the registration statement;

*Provided, however,* that paragraphs (a)(1)(i), (a)(1)(ii) and (a)(1)(iii) do not apply if the information required to be included in a post-effective amendment by those paragraphs is contained in reports filed with or furnished to the Commission by the registrant pursuant to section 13 or section 15(d) of the Securities Exchange Act of 1934 that are incorporated by reference in the registration statement, or is contained in a form of prospectus filed pursuant to Rule 424(b) that is a part of the registration statement.

(2) That, for the purpose of determining any liability under the Securities Act of 1933, each such post-effective amendment shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(3) To remove from registration by means of a post-effective amendment any of the securities being registered which remain unsold at the termination of the offering.

(4) That, for the purpose of determining liability under the Securities Act of 1933 to any purchaser:

(i) Each prospectus filed by the registrant pursuant to Rule 424(b)(3) shall be deemed to be part of the registration statement as of the date the filed prospectus was deemed part of and included in the registration statement; and

(ii) Each prospectus required to be filed pursuant to Rule 424(b)(2), (b)(5), or (b)(7) as part of a registration statement in reliance on Rule 430B relating to an offering made pursuant to Rule 415(a)(1)(i), (vii), or (x) for the purpose of providing the information required by section 10(a) of the Securities Act of 1933 shall be deemed to be part of and included in the registration statement as of the earlier of the date such form of prospectus is first used after effectiveness or the date of the first contract of sale of securities in the offering described in the prospectus. As provided in Rule 430B, for liability purposes of the issuer and any person that is at that date an underwriter, such date shall be deemed to be a new effective date of the registration statement relating to the securities in the registration statement to which that prospectus relates, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof. Provided, however, that no statement made in a registration statement or prospectus that is part of the registration statement or made in a document incorporated or deemed incorporated by reference into the registration statement or prospectus that is part of the registration statement will, as to a purchaser with a time of contract of sale prior to such effective date, supersede or modify any statement that was made in the registration statement or prospectus that was part of the registration statement or made in any such document immediately prior to such effective date.

(5) That, for the purpose of determining liability of the registrant under the Securities Act of 1933 to any purchaser in the initial distribution of the securities, the undersigned registrant undertakes that in a primary offering of securities of the undersigned registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:

(i) Any preliminary prospectus or prospectus of the undersigned registrant relating to the offering required to be filed pursuant to Rule 424;

(ii) Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned registrant or used or referred to by the undersigned registrant;

(iii) The portion of any other free writing prospectus relating to the offering containing material information about the undersigned registrant or its securities provided by or on behalf of the undersigned registrant; and

(iv) Any other communication that is an offer in the offering made by the undersigned registrant to the purchaser.

(b) The undersigned registrant hereby undertakes that, for purposes of determining any liability under the Securities Act of 1933, each filing of the registrant's annual report pursuant to Section 13(a) or Section 15(d) of the Securities Exchange Act of 1934 (and, where applicable, each filing of an employee benefit plan's annual report pursuant to Section 15(d) of the Securities Exchange Act of 1934) that is incorporated by reference in the registration statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.

(c) Insofar as indemnification for liabilities arising under the Securities Act of 1933 may be permitted to directors, officers and controlling persons of the registrants pursuant to the foregoing provisions described in Item 15, or otherwise, the registrants have been advised that in the opinion of the Securities and Exchange Commission such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the registrants of expenses incurred or paid by a director, officer or controlling person of any registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, each appropriate registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.

## EXHIBIT INDEX

Exhibit Number	Description	Incorporated by Reference			Filing Date
		Schedule/ Form	File No.	Exhibit	
2.1+	<a href="#">Agreement and Plan of Merger, dated as of June 21, 2021, by and among Big Cypress Acquisition Corp., Big Cypress Merger Sub Inc, SAB Biotherapeutics, Inc., and Shareholder Representative Services LLC as the Stockholders' Representative</a>	8-K	001-39871	2.1+	October 28, 2021
2.2+	<a href="#">First Amendment to Agreement and Plan of Merger, dated August 12, 2021, by and among Big Cypress Acquisition Corp. and SAB Biotherapeutics, Inc.</a>	8-K	001-39871	2.2+	October 28, 2021
3.1	<a href="#">Amended and Restated Certificate of Incorporation.</a>	8-K	001-39871	3.1	October 28, 2021
3.2	<a href="#">Amended and Restated Bylaws.</a>	8-K	001-39871	3.2	October 28, 2021
4.1	<a href="#">Specimen common stock Certificate of Registrant</a>	S-1/A	333-258869	4.2	January 4, 2021
4.2	<a href="#">Specimen Warrant Certificate of Registrant (incorporated by reference to Exhibit 4.3 of BCYP's Form S-1/A.</a>	S-1/A	333-258869	4.3	January 4, 2021
4.3	<a href="#">Form of Warrant Agreement between the Registrant and Continental Stock Transfer &amp; Trust Company.</a>	S-1/A	333-258869	4.4	September 22, 2021
4.4	<a href="#">Form of Warrant</a>	8-K	001-39871	4.1	December 12, 2022
4.5	<a href="#">Form of Placement Agent Warrant</a>	8-K	001-39871	4.2	December 12, 2022
5.1	<a href="#">Opinion of Dentons US LLP</a>	S-1	333-261496	5.1	December 3, 2021
10.1	<a href="#">Amended and Restated Registration Rights Agreement.</a>	8-K	001-39871	10.1	October 28, 2021
23.1	<a href="#">Consent of Independent Registered Public Accounting Firm</a>				
23.2	<a href="#">Consent of Dentons US LLP (included in Exhibit 5.1)</a>	S-1	333-261496	5.1	December 3, 2021
24.1	<a href="#">Power of Attorney (included on a signature page of the initial filing of this Registration Statement)</a>				

\* To be filed by amendment.

+ Schedules and exhibits have been omitted pursuant to Item 601(b)(2) of Regulation S-K. The Company agrees to furnish supplementally a copy of any omitted schedule or exhibit to the SEC upon request.

¥ Indicates a management contract or compensatory plan, contract or arrangement.

**SIGNATURES**

Pursuant to the requirements of the Securities Act of 1933, the Company has duly caused this Registration Statement to be signed on its behalf by the undersigned, thereunto duly authorized in the Sioux Falls, State of South Dakota, on this 3rd, day of, February, 2023.

SAB BIOTHERAPEUTICS, INC.

By: /s/ Eddie J. Sullivan  
 Name: Eddie Sullivan  
 Title: President and Chief Executive Officer

**POWER OF ATTORNEY**

**KNOW ALL PERSONS BY THESE PRESENTS**, that each person whose signature appears below constitutes and appoints Eddie J. Sullivan and Russell P. Beyer, and each of them acting individually, as his or her true and lawful attorney- in-fact and agent, with full power of each to act alone, with full powers of substitution and resubstitution, for him or her and in his or her name, place and stead, in any and all capacities, to sign any and all amendments to this registration statement (including post-effective amendments and any registration statement for the same offering that is to be effective under Rule 462(b) of the Securities Act), and to file the same with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorney-in-fact and agent, and full power and authority to do and perform each and every act and thing requisite and necessary to be done in connection therewith, as fully for all intents and purposes as he or she might or could do in person, hereby ratifying and confirming that all said attorneys-in-fact and agents, or any of them or their substitute or resubstitute, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, this Registration Statement has been signed by the following persons in the capacities and on the dates indicated.

<b>Signature</b>	<b>Title</b>	<b>Date</b>
<u>/s/ Eddie J. Sullivan</u> Eddie J. Sullivan	President and Chief Executive Officer and Director <i>(Principal Executive Officer)</i>	February 3, 2023
<u>/s/ Russell Beyer</u> Russell Beyer	Chief Financial Officer <i>(Principal Financial Officer and Principal Accounting Officer)</i>	February 3, 2023
<u>/s/ Samuel J. Reich</u> Samuel J. Reich	Director and Executive Chairman	February 3, 2023
<u>/s/ David Charles Link</u> David Charles Link	Director	February 3, 2023
<u>/s/ Christine Hamilton</u> Christine Hamilton	Director	February 3, 2023
<u>/s/ William James Polvino</u> William James Polvino	Director	February 3, 2023
<u>/s/ Jeffrey G. Spragens</u> Jeffrey G. Spragens	Director	February 3, 2023
<u>/s/ Scott Giberson</u> Scott Giberson	Director	February 3, 2023

**CONSENT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM**

We consent to the incorporation by reference in this Post-Effective Amendment No. 2 to the Registration Statement on Form S-1 on Form S-3 and related prospectus of our report dated March 29, 2022, with respect to the consolidated financial statements of SAB Biotherapeutics, Inc. and Subsidiaries as of December 31, 2021 and 2020 and for each of the two years in the period ended December 31, 2021, included in the Annual Report on Form 10-K for the year ended December 31, 2021, and to the reference to us under the heading “Experts” in the prospectus, which is part of this Registration Statement.

/s/ Mayer Hoffman McCann P.C.

San Diego, California  
February 3, 2023