PROSPECTUS SUPPLEMENT (To prospectus dated February 3, 2019)



\$35,000,000 Common Stock

Cue Biopharma, Inc. has entered into an At-the-Market Equity Offering Sales Agreement (the "Sales Agreement") with Stifel, Nicolaus & Company, Incorporated ("Stifel") to offer and sell up to \$35,000,000 of our common stock, \$0.001 par value per share, offered by this prospectus supplement and the accompanying prospectus.

In accordance with the terms of the Sales Agreement, we may offer and sell shares of our common stock at any time and from time to time through Stifel as our sales agent. Sales of the common stock, if any, will be made at market prices by any method that is deemed to be an "at the market offering" as defined in Rule 415 under the Securities Act of 1933, as amended (the "Securities Act"). Stifel may also sell our common stock in negotiated transactions with our prior approval.

The aggregate compensation payable to Stifel shall be equal to up to 3.0% of the gross sales price of the shares sold through Stifel pursuant to the Sales Agreement. In connection with the sale of the common stock on our behalf, Stifel will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of Stifel will be deemed to be underwriting commissions or discounts.

Subject to the terms and conditions of the Sales Agreement, Stifel will use its commercially reasonable efforts consistent with its normal trading and sales practices to sell on our behalf any shares to be offered by us under the Sales Agreement. There is no arrangement for funds to be received in any escrow, trust or similar arrangement.

We are an "emerging growth company" as that term is defined in the Jumpstart Our Business Startups Act of 2012 and, as such, are subject to certain reduced public company reporting requirements. See "The Company—Implications of Being an Emerging Growth Company" in the accompanying prospectus.

Our common stock is listed on the Nasdaq Capital Market under the symbol "CUE." The last reported sale price of our common stock on the Nasdaq Capital Market on March 26, 2020 was \$14.24 per share.

Investing in our common stock involves risks. See "Risk Factors" beginning on page S-4.

Neither the Securities and Exchange Commission (the "SEC"), nor any state securities commission, or any other regulatory body has approved or disapproved of these securities or determined if this prospectus supplement is truthful or complete. Any representation to the contrary is a criminal offense.



The date of this prospectus supplement is March 27, 2020.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This prospectus supplement and the accompanying prospectus form part of a registration statement on Form S-3 (File No. 333-229140) that we filed with the SEC utilizing a "shelf" registration process. This document contains two parts. The first part consists of this prospectus supplement, which provides you with specific information about this offering. The second part, the accompanying prospectus, provides more general information, some of which may not apply to this offering. Generally, when we refer only to the "prospectus," we are referring to both parts combined together with all documents incorporated by reference.

In this prospectus supplement, the terms "Cue Biopharma," "we," "us," "our" and the "Company" refer to Cue Biopharma, Inc. unless otherwise stated or the context otherwise requires.

This prospectus supplement, and the information incorporated herein by reference, may add, update or change information in the accompanying prospectus and in any free writing prospectuses we may provide to you in connection with this offering. You should read both this prospectus supplement and the accompanying prospectus together with additional information described under the headings "Where You Can Find More Information" and "Incorporation of Certain Information by Reference." If there is any inconsistency between the information in this prospectus supplement and the accompanying prospectus, you should rely on the information in this prospectus supplement.

You may rely only the information contained in or incorporated by reference in this prospectus supplement and the accompanying prospectus. Neither we nor the sales agent has authorized anyone to provide information different from that contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein. If anyone provides you with different or inconsistent information, you should not rely on it. The information in this prospectus supplement, the accompanying prospectus and in any free writing prospectuses we may provide to you in connection with this offering is accurate only as of their respective dates, regardless of time of delivery. Our business, financial condition, results of operations and prospects may have changed since those dates.

We are offering to sell, and seeking offers to buy, our securities only in jurisdictions where offers and sales are permitted. The distribution of this prospectus supplement and the offering of the securities in certain jurisdictions may be restricted by law. Persons outside the United States who come into possession of this prospectus supplement must inform themselves about, and observe any restrictions relating to, the offering of the securities and the distribution of this prospectus supplement outside the United States. This prospectus supplement does not constitute, and may not be used in connection with, an offer to sell, or a solicitation of an offer to buy, any securities offered by this prospectus supplement by any person in any jurisdiction in which it is unlawful for such person to make such an offer or solicitation.

All references in this prospectus to our consolidated financial statements include, unless the context indicates otherwise, the related notes.

CUE BIOPHARMATM, Immuno-STATTM and our logo are some of our trademarks and registered marks used in this prospectus supplement and the documents incorporated by reference herein. This prospectus supplement and the documents incorporated by reference herein also include trademarks, tradenames and service marks that are the property of other organizations. Solely for convenience, our trademarks and tradenames appear without the $^{\text{IM}}$ and $^{\text{TM}}$ symbol, but those references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights, or the right of the applicable licensor to these trademarks and tradenames.

The industry and market data and other statistical information contained in this prospectus supplement, the accompanying prospectus and the documents we incorporate by reference are based on management's own estimates, independent publications, government publications, reports by market research firms or other published independent sources, and, in each case, are believed by management to be reasonable estimates. Although we believe these sources are reliable, we have not independently verified the information. None of the independent industry publications used in this prospectus supplement, the accompanying prospectus or the documents we incorporate by reference were prepared on our or our affiliates' behalf and none of the sources cited by us consented to the inclusion of any data from its reports, nor have we sought their consent.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS AND OTHER INFORMATION CONTAINED IN THIS PROSPECTUS SUPPLEMENT

Certain information set forth in this prospectus supplement, set forth in the accompanying prospectus or incorporated by reference herein or therein may contain forward-looking statements within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), that are intended to be covered by the "safe harbor" created by those sections. Forward-looking statements, which are based on certain assumptions and describe our future plans, strategies and expectations, can generally be identified by the use of forward-looking terms such as "believe," "expect," "may," "will," "should," "could," "seek," "intend," "plan," "goal," "project," "estimate," "anticipate," "strategy", "future", "likely" or other comparable terms and references to future periods. All statements other than statements of historical facts included in this prospectus supplement or incorporated by reference herein regarding our strategies, prospects, financial condition, operations, costs, plans and objectives are forward-looking statements. Examples of forward-looking statements include, among others, statements we make regarding: anticipated results of our drug development efforts, including study results, our expectations regarding regulatory developments and expected future operating results.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside of our control. Our actual results and financial condition may differ materially from those indicated in the forward-looking statements. Therefore, you should not rely on any of these forward-looking statements. Important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements include, among others, the following:

- our limited operating history, limited cash and a history of losses;
- our ability to achieve profitability;
- potential setbacks in our research and development efforts;
- our ability to secure required U.S. Food and Drug Administration (the "FDA") or other governmental approvals for our product candidates and the breadth of any approved indication;
- · uncertainties associated with COVID-19 or coronavirus, including its possible effects on our operations;
- negative or inconclusive results from our clinical studies or serious and unexpected drug-related side effects or other safety issues experienced by participants in our clinical trials;
- delays and changes in regulatory requirements, policy and guidelines including potential delays in submitting required regulatory applications to the FDA:
- our reliance on licensors, collaborations and strategic alliances;
- our ability to obtain adequate financing to fund our business operations in the future;
- · the use of proceeds from this offering; and
- the other risks and uncertainties described in "Risk Factors" beginning on page S-4 of this prospectus supplement and in Part I, Item 1A, Risk Factors of our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 and in Part II, Item 1A, Risk Factors of any subsequently filed Quarterly Reports on Form 10-Q, which are incorporated by reference in this prospectus supplement and the accompanying prospectus.

Therefore, you should not rely on any of these forward-looking statements. We urge you to consider those risks and uncertainties in evaluating our forward-looking statements. All subsequent written and oral forward-looking statements attributable to us or to persons acting on our behalf are expressly qualified in their entirety by the applicable cautionary statements. We further caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. Except as otherwise required by the federal securities laws, we undertake no obligation to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise.

SUMMARY

This summary highlights selected information contained elsewhere in or incorporated by reference in this prospectus supplement and the accompanying prospectus. The summary may not contain all of the information that is important to you or that you should consider before making an investment decision. You should carefully read this entire prospectus supplement and the accompanying prospectus, as well as the information to which we refer you, before deciding whether to invest in our common stock. You should pay special attention to the "Risk Factors" section of this prospectus supplement to determine whether an investment in our common stock is appropriate for you.

About Cue Biopharma, Inc.

Cue Biopharma is a clinical-stage biopharmaceutical company engineering a novel class of injectable biologics to selectively engage and modulate targeted T cells within the body. Our proprietary Immuno-STAT $^{\text{TM}}$ (*Selective Targeting and Alteration of T Cells*) platform is engineered to selectively engage and modulate disease relevant T cells directly within the body, which we believe will allow us to harness the fullest potential of an individual's intrinsic immune repertoire for restoring health while avoiding the deleterious side-effects of broad immune activation (for immuno-oncology or infectious immunity) or broad immune suppression (for autoimmunity and inflammation). In addition to the selective control of T cell activity, we believe Immuno-STATs offer several key points of potential differentiation over competing approaches, including modularity and versatility providing broad disease coverage, manufacturability, and convenient administration.

Through rational protein engineering, we leverage the modular and versatile nature of the Immuno-STAT platform to design therapeutics for selective immune modulation in cancer, chronic infectious disease and autoimmune disease. To address the needs of these clinical indications, we have developed three biologic series, CUE-100, CUE-200 and CUE-300, each possessing distinct signaling modules that underscore unique biological mechanisms that may be applied across many diseases. The CUE-100 series exploits rationally engineered IL-2 in context of the core Immuno-STAT framework for activation of tumor-specific T cells, while the CUE-200 series is focused on cell surface receptors including CD80 and/or 4-1BBL. The CUE-300 series is being developed for autoimmune diseases for selective modulation of the autoreactive T cell repertoire.

The Company's production candidates are in various stages of clinical and preclinical development, and while we believe that these candidates hold tremendous potential value, the Company's activities are subject to significant risks and uncertainties. The Company has not yet commenced any commercial revenue-generating operations, has limited cash flows from operations, and will need to raise additional capital to fund its growth and ongoing business operations.

Our Immuno-STAT Pipeline

CUE-300

Pipeline

CUE-301 (Proins / DR4)

CUE-302 (Undiscle

CUE-100 | CUE-102 (WT1 / A02) | CUE-102 (WT1 / A24) | CUE-200 | CUE-201 (Undisclosed) | CUE-201 (Undis

We have made significant progress furthering the advancement of the CUE-100 series. We dosed the first patient in September 2019 in a Phase 1 clinical trial of CUE-101 for the treatment of HPV16-driven recurrent/metastatic head and neck squamous cell carcinoma (HNSCC). Enabled by the Company's proprietary Immuno-STAT platform, CUE-101 is the Company's lead biologic drug candidate, designed to directly engage and activate T cells in the body to target HPV-driven cancers. The CUE-101 program is representative of the IL2 based CUE-100 series for which we have generated a robust preclinical data package, including activation of HPV specific T cells from human blood. These data were recently published in a peer-reviewed journal (Quayle et al., *Clinical Cancer Research 2019*, https://clincancerres.aacrjournals.org/content/early/2020/01/15/1078-0432.CCR-19-3354).

We are currently advancing a pipeline of additional promising preclinical candidates that hold the potential to treat multiple cancers, and with recent advances with the CUE-300 series for autoimmune disorders, we plan to be well poised with a growing pipeline of promising clinical candidates throughout the coming year. Furthermore, we also have the potential of developing a pipeline of Immuno-STATs for treating chronic infectious diseases with the CUE-200 series.

General Company Information

We were incorporated as Imagen Biopharma, Inc. in Delaware on December 31, 2014. In October 2016, we changed our name to Cue Biopharma, Inc. The address of our corporate headquarters is 21 Erie Street, Cambridge, Massachusetts 02139 and our telephone number is (617) 949-2680. Our website can be accessed at www.cuebiopharma.com. The information contained on, or that may be obtained from, our website is not, and shall not be deemed to be, a part of this prospectus supplement or the accompanying prospectus.

November 2019 At-The-Market Program

In November 2019, the Company entered into an at-the-market equity offering sales agreement with Stifel, Nicolaus & Company, Incorporated ("Stifel") to sell shares of the Company's common stock for aggregate gross proceeds of up to \$20 million, from time to time, through an "at-the-market" equity offering program under which Stifel acted as sales agent (the "November 2019 Sales Agreement"). As of December 31, 2019, the Company had sold 1,729,110 shares of common stock under the November 2019 Sales Agreement for gross proceeds of approximately \$20.0 million. On December 13, 2019, the November 2019 Sales Agreement terminated due to the issuance and sale of all the shares of common stock subject thereto.

THE OFFERING

Common stock offered by us Shares of our common stock having an aggregate offering price of

up to \$35.0 million.

Manner of offering "At the market offering," as defined in Rule 415(a)(4) of the

Securities Act, that may be made from time to time by Stifel. See "Plan of Distribution" on page S-9 of this prospectus supplement. Stifel may also sell our common stock in negotiated transactions

with our prior approval.

Use of proceedsWe intend to use the net proceeds from this offering to support clinical studies for our CUE-100 series biologics and for general

corporate and working capital purposes, including ongoing research and development activities for our drug candidates and platform technologies. See "Use of Proceeds" on page S-6 for

additional information.

Risk factorsSee the section entitled "Risk Factors" beginning on page S-4 and the other information included or incorporated by reference in this

prospectus supplement and the accompanying prospectus for a discussion of factors you should carefully consider before

deciding to invest in shares of our common stock.

The Nasdaq Capital Market symbol

Our common stock is currently listed on the Nasdaq Capital

Market under the symbol "CUE."

RISK FACTORS

You should carefully consider the following risk factors and the risk factors discussed under "Item 1A—Risk Factors" contained in our Annual Report on Form 10-K for the fiscal year ended December 31, 2019 and in Part II, Item 1A, Risk Factors of any subsequently filed Quarterly Reports on Form 10-Q, which are incorporated by reference in this prospectus supplement in their entirety, together with all of the other information contained in this prospectus supplement and the accompanying prospectus. The risks described in any document incorporated by reference are not the only ones we have, but are considered to be the most material. Additional risks of which we are not presently aware or that we currently believe are immaterial may also harm our business and results of operations. If any of these risks actually occur, our business, financial condition and results of operations would likely suffer. In that case, the market price of the common stock could decline, and you may lose part or all of your investment in our company.

Sales of our common stock in this offering, or the perception that such sales may occur, could cause the market price of our common stock to fall.

We may issue and sell shares of our common stock for aggregate gross proceeds of up to \$35.0 million from time to time in connection with this offering. The issuance and sale from time to time of these new shares of common stock, or our ability to issue these new shares of common stock in this offering, could have the effect of depressing the market price of our common stock.

You will suffer immediate dilution in the net tangible book value per share of the common stock that you purchase in this offering.

The public offering price of our common stock is substantially higher than the as-adjusted net tangible book value per share of our common stock. Therefore, investors purchasing shares of our common stock in this offering will pay a price per share that substantially exceeds the as-adjusted net tangible book value per share after this offering. Assuming that an aggregate of 2,457,865 shares of our common stock are sold at a public offering price of \$14.24 per share, the last reported sale price of our common stock on the Nasdaq Capital Market on March 26, 2020, for aggregate gross proceeds of \$35.0 million, and after deducting commissions and estimated offering expenses payable by us, new investors in this offering will experience immediate dilution of \$11.20 per share, representing the difference between the assumed public offering price and our as adjusted net tangible book value per share after giving effect to this offering. For more information, see "Dilution."

You may experience future dilution as a result of future equity offerings.

In order to raise additional capital, we may in the future offer additional shares of our common stock or other securities convertible into or exchangeable for our common stock at prices that may not be the same as the price per share in this offering. The price per share at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be lower than the price per share paid by investors in this offering.

Our management will have broad discretion in the use of the net proceeds from this offering and may not use them effectively.

Our management will have broad discretion in the application of the net proceeds from this offering and our stockholders will not have the opportunity as part of their investment decisions to assess whether the net proceeds are being used appropriately. You may not agree with our decisions, and our use of the proceeds may not yield any return on your investment. Because of the number and variability of factors that will determine our use of the net proceeds from this offering, their ultimate use may vary substantially from their currently intended use. Our failure to apply the net proceeds of this offering effectively could compromise our ability to pursue our growth strategy and we might not be able to yield a significant return, if any, in our investment of these net proceeds. You will not have the opportunity to influence our decisions on how to use our net proceeds from this offering.

The novel coronavirus (COVID-19) pandemic has resulted in significant financial market volatility, and its impact on the global economy and our operations remains uncertain. A continuation or worsening of the pandemic could have a material adverse impact on our business, results of operations and financial condition and on the market price of our common stock.

On March 12, 2020, the World Health Organization declared COVID-19 to be a pandemic. In an effort to contain and mitigate the spread of COVID-19, many countries, including the United States, Canada and China, have imposed unprecedented restrictions on travel, and there have been business closures and a substantial reduction in economic activity in countries that have had significant outbreaks of COVID-19. Although our operations have not been materially affected at this point, significant uncertainty remains as to the potential impact of the COVID-19 pandemic on our operations and on the global economy as a whole. It is currently not possible to predict how long the pandemic will last or the time that it will take for economic activity to return to prior levels. The COVID-19 pandemic has resulted in significant financial market volatility and uncertainty in recent weeks. A continuation or worsening of the levels of market disruption and volatility seen in the recent past could have an adverse effect on our ability to access capital, on our business, results of operations and financial condition, and on the market price of our common stock.

USE OF PROCEEDS

We may issue and sell shares of our common stock having aggregate gross proceeds of up to \$35.0 million from time to time. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions paid to Stifel and proceeds to us, if any, are not determinable at this time. We estimate that the net proceeds from the sale of the shares of common stock that we are offering may be up to approximately \$33.8 million, after deducting commissions payable to Stifel and estimated offering expenses payable by us.

We intend to use the net proceeds from this offering to support clinical studies for our CUE-100 series biologics and for general corporate and working capital purposes, including ongoing research and development activities for our drug candidates and platform technologies. The amounts and timing of our actual use of the net proceeds from this offering will vary depending on numerous factors, including the factors described under "Risk Factors" located elsewhere in this prospectus supplement, the accompanying prospectus or in the information incorporated by reference herein or therein. As a result, our management will have broad discretion in the application of the net proceeds, and investors will be relying on our judgment regarding the application of the net proceeds from this offering.

Pending application of the net proceeds as discussed above, we plan to invest any remaining proceeds from this offering in a variety of capital preservation instruments, including short-term, interest-bearing obligations, investment-grade instruments, or direct or guaranteed obligations of the U.S. government.

DIVIDEND POLICY

We have not declared or paid any cash dividends on our capital stock. We currently intend to retain any future earnings for use in the operation of our business and do not anticipate paying any dividends on our common stock in the foreseeable future. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on our financial condition, operating results, capital requirements, general business conditions and other factors that our board of directors may deem relevant.

DILUTION

If you purchase shares of common stock in this offering, you will experience dilution to the extent of the difference between the public offering price per share in this offering and our as adjusted net tangible book value per share after this offering.

Net tangible book value per share represents total tangible assets less total liabilities, divided by the number of shares of common stock outstanding. Our historical net tangible book value as of December 31, 2019 was \$54.4 million, or \$2.05 per share of common stock. After giving effect to our sale of common stock in the aggregate amount of \$35.0 million at an assumed public offering price of \$14.24 per share, the last reported sale price of our common stock the Nasdaq Capital Market on March 26, 2020, and after deducting commissions and estimated offering expenses payable by us, our as adjusted net tangible book value as of December 31, 2019 would have been approximately \$88.3 million, or approximately \$3.04 per share. This represents an immediate increase in net tangible book value of approximately \$0.99 per share to existing stockholders and an immediate dilution in as adjusted net tangible book value of approximately \$11.20 per share to new investors in this offering.

The following table illustrates this dilution on a per share basis. The as adjusted information is illustrative only and will adjust based on the actual public offering price, the actual number of shares sold and other terms of the offering determined at the time shares of our common stock are sold pursuant to this prospectus supplement. The as adjusted information assumes that all of our common stock in the aggregate amount of \$35.0 million is sold at the assumed public offering price of \$14.24 per share. The shares sold in this offering, if any, will be sold from time to time at various prices.

Assumed public offering price per share		\$14.24
Net tangible book value per share as of December 31, 2019	\$2.05	
Increase in net tangible book value per share attributable to this offering	\$0.99	
As adjusted net tangible book value per share, after giving effect to this offering		\$ 3.04
Dilution per share to new investors in this offering		\$ 11.20

The above discussion and tables are based on 26,562,178 shares of common stock outstanding as of December 31, 2019 and excludes the following:

- 4,793,253 shares of our common stock reserved for issuance under outstanding stock options issued pursuant to our 2016 Omnibus Incentive Plan and 2016 Non-Employee Equity Incentive Plan at a weighted average exercise price of \$7.10 per share;
- 66,667 shares of our common stock reserved for issuance under outstanding restricted stock units issued pursuant to our 2016 Omnibus Incentive Plan:
- 1,189,827 shares of common stock reserved for issuance under outstanding warrants at a weighted average exercise price of \$7.57 per share;
- · 459,705 shares of our common stock reserved for future issuance under our 2016 Omnibus Incentive Plan; and
- 5,400 shares of our common stock reserved for future issuance under our 2016 Non-Employee Equity Incentive Plan.

PLAN OF DISTRIBUTION

We have entered into the Sales Agreement, dated March 27, 2020 with Stifel under which we may offer and sell shares of our common stock having an aggregate gross sales price of up to \$35.0 million from time to time through Stifel. The Sales Agreement has been filed as an exhibit to a Current Report on Form 8-K filed under the Exchange Act and is incorporated by reference in this prospectus supplement.

Upon delivery of a placement notice and subject to the terms and conditions of the Sales Agreement, Stifel may sell our common stock by any method permitted by law deemed to be an "at the market offering" as defined in Rule 415 promulgated under the Securities Act. Stifel may also sell our common stock in negotiated transactions with our prior approval. We may instruct Stifel not to sell common stock if the sales cannot be effected at or above the price designated by us from time to time. We or Stifel may suspend the offering of common stock upon notice and subject to other conditions.

We will pay Stifel commissions, in cash, for its services in acting as agent in the sale of our common stock. Stifel will be entitled to compensation at a commission rate equal to up to 3.0% of the aggregate gross proceeds from each sale of our common stock. Because there is no minimum offering amount required as a condition to close this offering, the actual total public offering amount, commissions paid to Stifel and proceeds to us, if any, are not determinable at this time. We have also agreed to reimburse Stifel for certain expenses incurred in connection with the offering of our common stock pursuant to the Sales Agreement, up to a maximum of \$50,000. We estimate that the total expenses for the offering, excluding compensation and reimbursements payable to Stifel under the terms of the Sales Agreement, will be approximately \$200,000.

Settlement for sales of common stock will occur on the second business day, or such earlier day as is industry practice for regular-way trading, following the date on which any sales are made, or on some other date that is agreed upon by us and Stifel in connection with a particular transaction, in return for payment of the net proceeds to us. Sales of our common stock as contemplated in this prospectus supplement and the accompanying prospectus will be settled through the facilities of The Depository Trust Company or by such other means as we and Stifel may agree upon. There is no arrangement for funds to be received in an escrow, trust or similar arrangement.

Subject to the terms and conditions of the Sales Agreement, Stifel will use its commercially reasonable efforts consistent with its normal trading and sales practices to sell on our behalf any shares to be offered by us under the Sales Agreement. In connection with the sale of the common stock on our behalf, Stifel will be deemed to be an "underwriter" within the meaning of the Securities Act and the compensation of Stifel will be deemed to be underwriting commissions or discounts. We have agreed to provide indemnification and contribution to Stifel against certain civil liabilities, including liabilities under the Securities Act.

The offering of our common stock pursuant to the Sales Agreement will terminate upon the earlier of (i) the sale of all of our common stock subject to the Sales Agreement or (ii) the termination of the Sales Agreement as permitted therein. We and Stifel may each terminate the Sales Agreement at any time upon written notice.

Stifel and its affiliates may in the future provide various investment banking, commercial banking and other financial services for us and our affiliates, for which services they may in the future receive customary fees. To the extent required by Regulation M, Stifel will not engage in any market making activities involving our common stock while the offering is ongoing under this prospectus supplement and accompanying prospectus.

LEGAL MATTERS

K&L Gates LLP, Charlotte, North Carolina, will pass upon the validity of the shares of common stock offered by this prospectus supplement. Stifel is being represented in connection with this offering by Goodwin Procter LLP, New York, New York.

EXPERTS

The consolidated financial statements of Cue Biopharma, Inc. and Subsidiary as of December 31, 2019 and December 31, 2018 and for the years then ended, incorporated in this prospectus supplement by reference to the Company's Annual Report on Form 10-K for the year ended December 31, 2019, have been audited by RSM US LLP, an independent registered public accounting firm, as stated in its report thereon, incorporated herein by reference, and have been incorporated in this prospectus supplement and the registration statement of which the accompanying prospectus forms a part in reliance upon such report and upon the authority of such firm as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual reports, quarterly reports, current reports, proxy statements and other information with the SEC. Our SEC filings are and will become available to the public over the Internet at the SEC's website at www.sec.gov. You can also find our public filings on our website at www.cuebiopharma.com. Our website and the information contained therein or connected thereto are not part of this prospectus supplement or the accompanying prospectus.

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the shares of common stock being offered by this prospectus supplement. This prospectus supplement and the accompanying prospectus are a part of that registration statement but do not contain all of the information set forth in the registration statement or the exhibits to the registration statement. For further information with respect to us and the shares we are offering pursuant to this prospectus supplement, you should refer to the registration statement and its exhibits. Statements contained in this prospectus supplement as to the contents of any contract, agreement or other document referred to are not necessarily complete, and you should refer to the copy of that contract or other documents filed as an exhibit to the registration statement. You may read or obtain a copy of the registration statement at the SEC's website referred to above.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file with it, 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 supplement and the accompanying prospectus. Information in this prospectus supplement supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus supplement.

We incorporate by reference the information or documents listed below that we have filed with the SEC:

- our Annual Report on Form 10-K for the year ended December 31, 2019 filed with the SEC on March 12, 2020, and Amendment No. 1 to such Annual Report on Form 10-K filed with the SEC on March 12, 2020;
- our Current Report on Form 8-K filed with the SEC on February 10, 2020;
- the information set forth in Part III of Amendment No. 1 to our Annual Report on Form 10-K for the year ended December 31, 2018 filed with the SEC on April 30, 2019; and
- the description of our common stock contained in our Registration Statement on Form 8-A, filed with the SEC on December 13, 2017.

All documents we file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, except as to any portion of any report or documents that is not deemed filed under such provisions, on or after the date of this prospectus supplement until the termination of this offering shall be deemed incorporated by reference in this prospectus supplement and the accompanying prospectus and to be a part of this prospectus supplement from the date of filing of those documents.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to Cue Biopharma, Inc., 21 Erie Street, Cambridge, Massachusetts 02139, Telephone: (617) 949-2680. Copies of the above reports may also be accessed from our website at www.cuebiopharma.com. The information contained on, or that may be obtained from, our website is not, and shall not be deemed to be, a part of this prospectus supplement or the accompanying prospectus.

We have authorized no one to provide you with any information that differs from that contained in this prospectus supplement, the accompanying prospectus or incorporated by reference herein or therein. Accordingly, you should not rely on any information that is not contained in this prospectus supplement or the accompanying prospectus or incorporated by reference herein or therein. You should not assume that the information in this prospectus supplement is accurate as of any date other than the date of the front cover of this prospectus supplement.

Any statement contained in a document incorporated or deemed to be incorporated by reference in this prospectus supplement will be deemed modified, superseded or replaced for purposes of this prospectus supplement to the extent that a statement contained in this prospectus supplement or any other subsequently filed document that is deemed to be incorporated by reference into this prospectus supplement modifies, supersedes or replaces such statement.



CUE BIOPHARMA, INC.

Prospectus

\$150,000,000

Common Stock Preferred Stock Debt Securities Warrants Units

This prospectus relates to common stock, preferred stock, debt securities and warrants that Cue Biopharma, Inc. may sell from time to time in one or more offerings on terms to be determined at the time of sale. We will provide specific terms of these securities in supplements to this prospectus. You should read this prospectus and any supplement carefully before you invest. This prospectus may not be used to offer and sell securities unless accompanied by a prospectus supplement for those securities.

These securities may be sold directly by us, through dealers or agents designated from time to time, to or through underwriters or through a combination of these methods. See "Plan of Distribution" in this prospectus. We may also describe the plan of distribution for any particular offering of these securities in any applicable prospectus supplement. If any agents, underwriters or dealers are involved in the sale of any securities in respect of which this prospectus is being delivered, we will disclose their names and the nature of our arrangements with them in a prospectus supplement. The net proceeds we expect to receive from any such sale will also be included in a prospectus supplement.

Our common stock trades on the Nasdaq Capital Market under the symbol "CUE." On January 4, 2019, the last reported sale price for our common stock was \$5.52 per share.

We are an "Emerging Growth Company" as defined in the Jumpstart Our Business Startups Act of 2012 and, as such, have elected to comply with certain reduced public company reporting requirements for this prospectus and future filings. See "Prospectus Summary—Implications of Being an Emerging Growth Company."

Investing in our securities involves a high degree of risk. See "Risk Factors" on page 3 of this prospectus and contained in the applicable prospectus supplement and any related free writing prospectus, and under similar headings in other documents that are incorporated by reference into this prospectus or any such prospectus supplement or free writing prospectus.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus is February 3, 2019.

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ABOUT THIS PROSPECTUS

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. Under this shelf process, we may from time to time sell any combination of securities described in this prospectus in one or more offerings.

This prospectus provides you with a general description of the securities we may offer. Each time we sell securities under this shelf registration process, we will provide a prospectus supplement that will contain specific information about the terms of the securities being offered. That prospectus supplement may include a discussion of any risk factors or other special consideration that apply to those securities. The prospectus supplement may also add, update or change information contained in this prospectus. If there is any inconsistency between the information in this prospectus and a prospectus supplement, you should rely on the information in that prospectus supplement. You should read both this prospectus and any applicable prospectus supplement together with additional information described below under the headings "Where You Can Find More Information" and "Incorporation by Reference."

When acquiring any securities discussed in this prospectus, you should rely on the information provided in this prospectus and the prospectus supplement, including the information incorporated by reference. Neither we, nor any underwriters or agents, have authorized anyone to provide you with different information. We are not offering the securities in any state where such an offer is prohibited. You should not assume that the information in this prospectus, any prospectus supplement, or any document incorporated by reference, is truthful or complete at any date other than the date mentioned on the cover page of those documents. You should also carefully review the section entitled "Risk Factors", which highlights certain risks associated with an investment in our securities, to determine whether an investment in our securities is appropriate for you.

Unless otherwise stated or the context otherwise requires, the terms "Cue Biopharma," "we," "us," "our" and the "Company" refer to Cue Biopharma, Inc. and its subsidiaries.

THE COMPANY

We are an innovative biopharmaceutical company developing a novel and proprietary class of biologic drugs for the selective modulation of the human immune system to treat a broad range of cancers, autoimmune disorders and chronic infectious diseases. We believe our innovative Immuno-STATTM (Selective Targeting and Alteration of T cells) platform approach to selectively modulate disease relevant T cells, may provide a transformative solution to the challenges facing prevailing immunotherapeutics. By directly engaging and modulating disease relevant T cells in the patient's body via an off-the-shelf injectable drug, we believe our biologic drug candidates will be able to realize the true potential of immune modulation. Our proprietary platform allows us to efficiently design and develop drug candidates that are intended to specifically and selectively engage disease relevant T cells for therapeutic effect, thereby maximizing clinical benefit while minimizing or eliminating unwanted side effects. We believe this precise and selective targeting will allow us to harness the fullest potential of an individual's intrinsic immune repertoire while avoiding broad immune activation (for immuno-oncology or infectious immunity) or broad immune suppression (for autoimmunity and inflammation). We have been aggressively seeking patent protection for our pioneering innovations and, combined with a license agreement with the Albert Einstein College of Medicine ("Einstein"), continue to build a robust intellectual property portfolio.

Implications of Being an Emerging Growth Company

We are an "emerging growth company" as that term is defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"). Section 102(b)(1) of the JOBS Act exempts emerging growth companies from being required to comply with new or revised financial accounting standards until private companies (i.e., those that have not had a registration statement declared effective under the Securities Act of 1933, as amended (the "Securities Act"), or do not have a class of securities registered under the Securities Exchange Act of 1934, as amended (the "Exchange Act")) are required to comply with such new or revised financial accounting standards. The JOBS Act also provides that an emerging growth company can elect to opt out of the extended transition period provided by Section 102(b)(1) of the JOBS Act and comply with the requirements that apply to non-emerging growth companies, but any such election to opt out is irrevocable. We have irrevocably elected to opt out of this extended transition period provided by Section 102(b)(1) of the JOBS Act. Even though we have elected to opt out of the extended transition period, we may still take advantage of all of the other provisions of the JOBS Act, which include, but are not limited to, not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act, the reduced disclosure obligations regarding executive compensation in our periodic reports and proxy statements and the exemptions from the requirements of holding a nonbinding advisory vote on executive compensation and stockholder approval of any golden parachute payments not previously approved.

We are also currently considered a "smaller reporting company," which generally means that we have a public float of less than \$250 million. If we are still considered a "smaller reporting company" at such time as we cease to be an "emerging growth company," we will be subject to increased disclosure requirements. However, the disclosure requirements will still be less than they would be if we were not considered either an "emerging growth company" or a "smaller reporting company." Specifically, similar to "emerging growth companies," "smaller reporting companies" are able to provide simplified disclosures in their filings and are exempt from certain provisions of Section 404 of the Sarbanes-Oxley Act.

General Company Information

We were incorporated as Imagen Biopharma, Inc. in Delaware on December 31, 2014. In October 2016, we changed our name to Cue Biopharma, Inc. The address of our corporate headquarters is 21 Erie Street, Cambridge, Massachusetts 02139 and our telephone number is (617) 949-2680. Our website can be accessed at www.cuebiopharma.com. The information contained on, or that may be obtained from, our website is not, and shall not be deemed to be, a part of this prospectus.

RISK FACTORS

Investing in our securities involves a high degree of risk. You should carefully consider the risk factors described in our Annual Report on Form 10-K for our most recent fiscal year (together with any material changes thereto contained in subsequent filed Quarterly Reports on Form 10-Q) and those contained in our other filings with the SEC, which are incorporated by reference in this prospectus and any accompanying prospectus supplement.

The prospectus supplement applicable to each type or series of securities we offer may contain a discussion of risks applicable to the particular types of securities that we are offering under that prospectus supplement. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the caption "Risk Factors" in the applicable prospectus supplement, together with all of the other information contained in the prospectus supplement or appearing or incorporated by reference in this prospectus. These risks could materially affect our business, results of operations or financial condition and cause the value of our securities to decline. You could lose all or part of your investment.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

Certain information set forth in this prospectus or incorporated by reference in this prospectus may contain forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended (the "Securities Act"), and Section 21E of the Exchange Act, that are intended to be covered by the "safe harbor" created by those sections. Forward-looking statements, which are based on certain assumptions and describe our future plans, strategies and expectations, can generally be identified by the use of forward-looking terms such as "believe," "expect," "may," "will," "should," "would," "could," "seek," "intend," "plan," "estimate," "goal," "anticipate," "project" or other comparable terms. All statements other than statements of historical facts included in this prospectus regarding our strategies, prospects, financial condition, operations, costs, plans and objectives are forward-looking statements. Examples of forward-looking statements include, among others, statements we make regarding: expectations for revenues, cash flows and financial performance, the anticipated results of our development efforts and the timing for receipt of required regulatory approvals and product launches.

Forward-looking statements are neither historical facts nor assurances of future performance. Instead, they are based only on our current beliefs, expectations and assumptions regarding the future of our business, future plans and strategies, projections, anticipated events and trends, the economy and other future conditions. Because forward-looking statements relate to the future, they are subject to inherent uncertainties, risks and changes in circumstances that are difficult to predict and many of which are outside our control. Our actual results and financial condition may differ materially from those in the forward-looking statements. Therefore, you should not rely on any of these forward-looking statements. Important factors that could cause our actual results and financial condition to differ materially from those indicated in the forward-looking statements include, among others, the following:

- our limited operating history, limited cash and a history of losses;
- our ability to secure required Food and Drug Administration ("FDA") or other governmental approvals for our product candidates and the breadth of any approved indication;
- negative or inconclusive results from our clinical studies or serious and unexpected drug-related side effects or other safety issues experienced by participants in our clinical trials;
- delays and changes in regulatory requirements, policy and guidelines including potential delays in submitting required regulatory applications to the FDA;
- our reliance on licensors, collaborations and strategic alliances;
- our ability to obtain adequate financing to fund our business operations in the future; and
- the other risks and uncertainties described in our Annual Report on Form 10-K for our most recent fiscal year (together with any material changes thereto contained in subsequent filed Quarterly Reports on Form 10-Q) incorporated by reference herein.

We urge you to consider those risks and uncertainties in evaluating our forward-looking statements. All subsequent written and oral forward-looking statements attributable to us or to persons acting on our behalf are expressly qualified in their entirety by the applicable cautionary statements. We further caution readers not to place undue reliance upon any such forward-looking statements, which speak only as of the date made. Except as otherwise required by the federal securities laws, we undertake no obligation to publicly update any forward-looking statement, whether written or oral, that may be made from time to time, whether as a result of new information, future developments or otherwise.

USE OF PROCEEDS

We currently intend to use the estimated net proceeds from the sale of these securities for general corporate and working capital purposes including ongoing research and development activities. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds from the sale of these securities. Our plans to use the estimated net proceeds from the sale of these securities may change, and if they do, we will update this information in a prospectus supplement.

DESCRIPTION OF SECURITIES WE MAY OFFER

We may issue from time to time, in one or more offerings, the following securities:

- shares of common stock;
- shares of preferred stock;
- debt securities, which may include senior debt securities, subordinated debt securities and senior subordinated debt securities;
- · warrants for the purchase of debt securities, preferred stock or common stock; and
- units consisting of two or more of the foregoing.

Set forth below is a description of the common stock and preferred stock that may be offered under this prospectus. We will set forth in the applicable prospectus supplement and/or free writing prospectus a description of the debt securities and warrants that may be offered under this prospectus. The terms of the offering of our common stock, preferred stock or any such other securities, the initial offering price and the net proceeds to us will be contained in the prospectus supplement, and other offering material, relating to such offer.

We may sell the securities being offered pursuant to this prospectus directly to purchasers, to or through underwriters, through dealers or agents, or through a combination of such methods. The prospectus supplement with respect to the securities being offered will set forth the terms of the offering of those securities, including the names of any such underwriters, dealers or agents, the purchase price, the net proceeds to us, any underwriting discounts and other items constituting underwriters' compensation, the initial public offering price, any discounts or concessions allowed or reallowed or paid to dealers and any securities exchanges on which such securities may be listed.

DESCRIPTION OF COMMON STOCK WE MAY OFFER

The following summary description of our common stock is based on the provisions of our certificate of incorporation and bylaws, and the applicable provisions of the General Corporation Law of the State of Delaware. This information may not be complete in all respects and is qualified entirely by reference to the provisions of our Amended and Restated Certificate of Incorporation (the "Certificate of Incorporation"), and our amended and restated bylaws (the "Bylaws") and the General Corporation Law of the State of Delaware. For information on how to obtain copies of our Certificate of Incorporation and Bylaws, see the discussion below under the heading "Where You Can Find More Information."

We may offer our common stock issuable upon the conversion of debt securities or preferred stock and upon the exercise of warrants.

Authorized Common Stock

We currently have authority to issue 50,000,000 shares of our common stock, par value of \$0.001 per share. As of December 31, 2018, 20,697,453 shares of our common stock were issued and outstanding, held of record by 69 stockholders. Our authorized but unissued shares of common stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange or automated quotation system on which our securities may be listed or traded.

Voting Rights

Each holder of our common stock is entitled to one vote for each such share outstanding in the holder's name. No holder of common stock is entitled to cumulate votes in voting for directors.

Dividend and Liquidation Rights

Holders of our common stock are entitled to such dividends as may be declared by our board of directors out of funds legally available for such purpose. The shares of our common stock are neither redeemable nor convertible. Holders of our common stock have no preemptive or subscription rights to purchase any of our securities. In the event of our liquidation, dissolution or winding up, the holders of our common stock are entitled to receive pro rata our assets, which are legally available for distribution, after payments of all debts and other liabilities. All of the outstanding shares of our common stock are fully paid and non-assessable.

We have never paid any cash dividends on our common stock.

Our shares of common stock are listed on the Nasdaq Capital Market under the symbol "CUE."

DESCRIPTION OF PREFERRED STOCK WE MAY OFFER

This section describes the general terms and provisions of the preferred stock we may offer. This information may not be complete in all respects and is qualified entirely by reference to our Certificate of Incorporation, with respect to each series of preferred stock. The specific terms of any series will be described in a prospectus supplement. Those terms may differ from the terms discussed below. Any series of preferred stock we issue will be governed by our Certificate of Incorporation and by the certificate of designations relating to that series. We will file the certificate of designations with the SEC and incorporate it by reference as an exhibit to our registration statement at or before the time we issue any preferred stock of that series.

Authorized Preferred Stock

Our Certificate of Incorporation authorizes us to issue 10,000,000 shares of preferred stock, par value \$0.001 per share. As of December 31, 2018, we had no shares of preferred stock issued and outstanding. Our authorized but unissued shares of preferred stock are available for issuance without further action by our stockholders, unless such action is required by applicable law or the rules of any stock exchange or automated quotation system on which our securities may be listed or traded.

Our board of directors has the authority to issue preferred stock in one or more series and to fix the designations, powers, rights, preferences, qualifications, limitations and restrictions thereof. These designations, powers, rights and preferences could include voting rights, dividend rights, dissolution rights, conversion rights, exchange rights, redemption rights, liquidation preferences, and the number of shares constituting any series or the designation of such series, any or all of which may be greater than the rights of common stock. The issuance of preferred stock could adversely affect the voting power of holders of common stock and the likelihood that such holders will receive dividend payments and payments upon liquidation. In addition, the issuance of preferred stock could have the effect of delaying, deferring or preventing change in our control or other corporate action. No shares of our preferred stock are currently issued and outstanding.

Specific Terms of a Series of Preferred Stock

The preferred stock we may offer will be issued in one or more series. A prospectus supplement will discuss the following features of the series of preferred stock to which it relates:

- the designations and stated value per share;
- the number of shares offered;
- the amount of liquidation preference per share;
- the public offering price at which the preferred stock will be issued;

- the dividend rate, the method of its calculation, the dates on which dividends would be paid and the dates, if any, from which dividends would cumulate:
- · any redemption or sinking fund provisions;
- any conversion or exchange rights; and
- any additional voting, dividend, liquidation, redemption, sinking fund and other rights, preferences, privileges, limitations and restrictions.

DESCRIPTION OF DEBT SECURITIES WE MAY OFFER

General

The debt securities that we may issue will constitute debentures, notes, bonds or other evidences of indebtedness of Cue Biopharma, to be issued in one or more series, which may include senior debt securities, subordinated debt securities and senior subordinated debt securities. The particular terms of any series of debt securities we offer, including the extent to which the general terms set forth below may be applicable to a particular series, will be described in a prospectus supplement relating to such series.

Debt securities that we may issue will be issued under an indenture between us and a trustee qualified to act as such under the Trust Indenture Act of 1939. We have filed the form of the indenture as an exhibit to the registration statement of which this prospectus is a part. When we refer to the "indenture" in this prospectus, we are referring to the indenture under which the debt securities are issued as supplemented by any supplemental indenture applicable to the debt securities. We will provide the name of the trustee in any prospectus supplement related to the issuance of debt securities, and we will also provide certain other information related to the trustee, including describing any relationship we have with the trustee, in such prospectus supplement.

THE FOLLOWING DESCRIPTION IS A SUMMARY OF THE MATERIAL PROVISIONS OF THE INDENTURE. IT DOES NOT RESTATE THE INDENTURE IN ITS ENTIRETY. THE INDENTURE IS GOVERNED BY THE TRUST INDENTURE ACT OF 1939. THE TERMS OF THE DEBT SECURITIES INCLUDE THOSE STATED IN THE INDENTURE AND THOSE MADE PART OF THE INDENTURE BY REFERENCE TO THE TRUST INDENTURE ACT. WE URGE YOU TO READ THE INDENTURE BECAUSE IT, AND NOT THIS DESCRIPTION, DEFINES YOUR RIGHTS AS A HOLDER OF THE DEBT SECURITIES.

Information You Will Find in the Prospectus Supplement

The indenture provides that we may issue debt securities from time to time in one or more series and that we may denominate the debt securities and make them payable in foreign currencies. The indenture does not limit the aggregate principal amount of debt securities that can be issued thereunder. The prospectus supplement for a series of debt securities will provide information relating to the terms of the series of debt securities being offered, which may include:

- the title and denominations of the debt securities of the series;
- any limit on the aggregate principal amount of the debt securities of the series;
- the date or dates on which the principal and premium, if any, with respect to the debt securities of the series are payable or the method of determination thereof;
- the rate or rates, which may be fixed or variable, at which the debt securities of the series shall bear interest, if any, or the method of calculating and/or resetting such rate or rates of interest;
- the dates from which such interest shall accrue or the method by which such dates shall be determined and the duration of the extensions and the basis upon which interest shall be calculated;

- the interest payment dates for the series of debt securities or the method by which such dates will be determined, the terms of any deferral of interest and any right of ours to extend the interest payment periods;
- the place or places where the principal and interest on the series of debt securities will be payable;
- the terms and conditions upon which debt securities of the series may be redeemed, in whole or in part, at our option or otherwise;
- our obligation, if any, to redeem, purchase, or repay debt securities of the series pursuant to any sinking fund or other specified event or at the option of the holders and the terms of any such redemption, purchase, or repayment;
- the terms, if any, upon which the debt securities of the series may be convertible into or exchanged for other securities, including, among other things, the initial conversion or exchange price or rate and the conversion or exchange period;
- if the amount of principal, premium, if any, or interest with respect to the debt securities of the series may be determined with reference to an index or formula, the manner in which such amounts will be determined;
- if any payments on the debt securities of the series are to be made in a currency or currencies (or by reference to an index or formula) other than that in which such securities are denominated or designated to be payable, the currency or currencies (or index or formula) in which such payments are to be made and the terms and conditions of such payments;
- any changes or additions to the provisions of the indenture dealing with defeasance, including any additional covenants that may be subject to our covenant defeasance option;
- the currency or currencies in which payment of the principal and premium, if any, and interest with respect to debt securities of the series will be payable, or in which the debt securities of the series shall be denominated, and the particular provisions applicable thereto in accordance with the indenture:
- the portion of the principal amount of debt securities of the series which will be payable upon declaration of acceleration or provable in bankruptcy or the method by which such portion or amount shall be determined;
- whether the debt securities of the series will be secured or guaranteed and, if so, on what terms;
- any addition to or change in the events of default with respect to the debt securities of the series;
- the identity of any trustees, authenticating or paying agents, transfer agents or registrars;
- the applicability of, and any addition to or change in, the covenants currently set forth in the indenture;
- the subordination, ranking or priority, if any, of the debt securities of the series and terms of the subordination; and
- any other terms of the debt securities of the series which are not prohibited by the indenture.

Holders of debt securities may present debt securities for exchange in the manner, at the places, and subject to the restrictions set forth in the debt securities, the indenture, and the prospectus supplement. We will provide these services without charge, other than any tax or other governmental charge payable in connection therewith, but subject to the limitations provided in the indenture, any board resolution establishing such debt securities and any applicable indenture supplement.

Senior Debt

We may issue senior debt securities under the indenture. Unless otherwise set forth in the applicable indenture supplement and described in a prospectus supplement, the senior debt securities will be senior unsecured

obligations, ranking equally with all of our existing and future senior unsecured debt. The senior debt securities will be senior to all of our subordinated debt and junior to any secured debt we may incur as to the assets securing such debt.

Subordinated Debt

We may issue subordinated debt securities under the indenture. These subordinated debt securities will be subordinate and junior in right of payment, to the extent and in the manner set forth in the indenture and any applicable indenture supplement, to all of our senior indebtedness.

If this prospectus is being delivered in connection with a series of subordinated debt securities, the accompanying prospectus supplement or the information incorporated by reference will set forth the approximate amount of senior indebtedness outstanding as of the end of the most recent fiscal quarter.

Senior Subordinated Debt

We may issue senior subordinated debt securities under the indenture. These senior subordinated debt securities will be, to the extent and in the manner set forth in the applicable indenture supplement, subordinate and junior in right of payment to all of our "senior indebtedness" and senior to our other subordinated debt. See the discussions above under "—Senior Debt" and "—Subordinated Debt" for a more detailed explanation of our senior and subordinated indebtedness.

Interest Rate

Debt securities that bear interest will do so at a fixed rate or a variable rate. We may sell, at a discount below the stated principal amount, any debt securities which bear no interest or which bear interest at a rate that at the time of issuance is below the prevailing market rate. The relevant prospectus supplement will describe the special United States federal income tax considerations applicable to:

- · any discounted debt securities; and
- any debt securities issued at par which are treated as having been issued at a discount for United States federal income tax purposes.

Registered Global Securities

We may issue registered debt securities of a series in the form of one or more fully registered global securities. We will deposit the registered global security with a depository or with a nominee for a depository identified in the prospectus supplement relating to such series. The global security or global securities will represent and will be in a denomination or aggregate denominations equal to the portion of the aggregate principal amount of outstanding registered debt securities of the series to be represented by the registered global security or securities. Unless it is exchanged in whole or in part for debt securities in definitive registered form, a registered global security may not be transferred, except as a whole in three cases:

- by the depository for the registered global security to a nominee of the depository;
- by a nominee of the depository to the depository or another nominee of the depository; and
- by the depository or any nominee to a successor of the depository or a nominee of the successor.

The prospectus supplement relating to a series of debt securities will describe the specific terms of the depository arrangement concerning any portion of that series of debt securities to be represented by a registered global security. We anticipate that the following provisions will generally apply to all depository arrangements.

Upon the issuance of a registered global security, the depository will credit, on its book-entry registration and transfer system, the principal amounts of the debt securities represented by the registered global security to the accounts of persons that have accounts with the depository. These persons are referred to as "participants." Any underwriters, agents or dealers participating in the distribution of debt securities represented by the registered global security will designate the accounts to be credited. Only participants or persons that hold interests through participants will be able to beneficially own interests in a registered global security. The depository for a global security will maintain records of beneficial ownership interests in a registered global security for participants. Participants or persons that hold through participants will maintain records of beneficial ownership interests in a global security for persons other than participants. These records will be the only means to transfer beneficial ownership in a registered global security.

The laws of some states may require that specified purchasers of securities take physical delivery of the securities in definitive form. These laws may limit the ability of those persons to own, transfer or pledge beneficial interests in global securities.

So long as the depository, or its nominee, is the registered owner of a registered global security, the depository or its nominee will be considered the sole owner or holder of the debt securities represented by the registered global security for all purposes under the indenture. Except as set forth below, owners of beneficial interests in a registered global security:

- may not have the debt securities represented by a registered global security registered in their names;
- · will not receive or be entitled to receive physical delivery of debt securities represented by a registered global security in definitive form; and
- · will not be considered the owners or holders of debt securities represented by a registered global security under the indenture.

Accordingly, each person owning a beneficial interest in a registered global security must rely on the procedures of the depository for the registered global security and, if the person is not a participant, on the procedures of the participant through which the person owns its interests, to exercise any rights of a holder under the indenture applicable to the registered global security.

We understand that, under existing industry practices, if we request any action of holders, or if an owner of a beneficial interest in a registered global security desires to give or take any action which a holder is entitled to give or take under the indenture, the depository for the registered global security would authorize the participants holding the relevant beneficial interests to give or take the action, and the participants would authorize beneficial owners owning through the participants to give or take the action or would otherwise act upon the instructions of beneficial owners holding through them.

Payment of Interest on and Principal of Registered Global Securities

We will make principal, premium, if any, and interest payments on debt securities represented by a registered global security registered in the name of a depository or its nominee to the depository or its nominee as the registered owner of the registered global security. None of Cue Biopharma, the trustee, or any paying agent for debt securities represented by a registered global security will have any responsibility or liability for:

- any aspect of the records relating to, or payments made on account of, beneficial ownership interests in such registered global security;
- maintaining, supervising, or reviewing any records relating to beneficial ownership interests;
- · the payments to beneficial owners of the global security of amounts paid to the depository or its nominee; or

any other matter relating to the actions and practices of the depository, its nominee or any of its participants.

We expect that the depository, upon receipt of any payment of principal, premium or interest in respect of the global security, will immediately credit participants' accounts with payments in amounts proportionate to their beneficial interests in the principal amount of a registered global security as shown on the depository's records. We also expect that payments by participants to owners of beneficial interests in a registered global security held through participants will be governed by standing instructions and customary practices. This is currently the case with the securities held for the accounts of customers registered in "street name." Such payments will be the responsibility of participants.

Exchange of Registered Global Securities

We may issue debt securities in definitive form in exchange for the registered global security if both of the following occur:

- the depository for any debt securities represented by a registered global security is at any time unwilling or unable to continue as depository or ceases to be a clearing agency registered under the Exchange Act; and
- we do not appoint a successor depository within 90 days.

In addition, we may, at any time, determine not to have any of the debt securities of a series represented by one or more registered global securities. In this event, we will issue debt securities of that series in definitive form in exchange for all of the registered global security or securities representing those debt securities.

Covenants by Cue Biopharma

The indenture includes covenants by us, including among other things that we will make all payments of principal and interest at the times and places required. The supplemental indenture establishing each series of debt securities may contain additional covenants, including covenants which could restrict our right to incur additional indebtedness or liens and to take certain actions with respect to our businesses and assets.

Events of Default

Unless otherwise indicated in the applicable prospectus supplement, the following will be events of default under the indenture with respect to each series of debt securities issued under the indenture:

- failure to pay when due any interest on any debt security of that series, continued for 30 days;
- failure to pay when due the principal of, or premium, if any, on, any debt security of that series;
- failure to perform any other covenant or agreement of ours under the indenture or the supplemental indenture with respect to that series or the
 debt securities of that series, continued for 90 days after written notice to us by the trustee or holders of at least 25% in aggregate principal
 amount of the outstanding debt securities of the series to which the covenant or agreement relates;
- · certain events of bankruptcy, insolvency or similar proceedings affecting us; and
- any other event of default specified in any supplemental indenture under which such series of debt securities is issued.

Except as to certain events of bankruptcy, insolvency or similar proceedings affecting us and except as provided in the applicable prospectus supplement, if any event of default shall occur and be continuing with respect to any series of debt securities under the indenture, either the trustee or the holders of at least 25% in aggregate principal

amount of outstanding debt securities of such series may accelerate the maturity of all debt securities of such series. Upon certain events of bankruptcy, insolvency or similar proceedings affecting us, the principal, premium, if any, and interest on all debt securities of each series shall be immediately due and payable.

After any such acceleration, but before a judgment or decree based on acceleration has been obtained by the trustee, the holders of a majority in aggregate principal amount of each affected series of debt securities may waive all defaults with respect to such series and rescind and annul such acceleration if all events of default, other than the non-payment of accelerated principal, have been cured, waived or otherwise remedied.

No holder of any debt securities will have any right to institute any proceeding with respect to the indenture or for any remedy under the indenture, unless such holder shall have previously given to the trustee written notice of a continuing event of default and the holders of at least 25% in aggregate principal amount of the outstanding debt securities of the relevant series shall have made written request and offered indemnity satisfactory to the trustee to institute such proceeding as trustee, and the trustee shall not have received from the holders of a majority in aggregate principal amount of the outstanding debt securities of such series a direction inconsistent with such request and shall have failed to institute such proceeding within 60 days. However, such limitations do not apply to a suit instituted by a holder of a debt security for enforcement of payment of the principal of and premium, if any, or interest on such debt security on or after the respective due dates expressed in such debt security.

Supplemental Indentures

We and the trustee may, at any time and from time to time, without prior notice to or consent of any holders of debt securities, enter into one or more indentures supplemental to the indenture, among other things:

- to add guarantees to or secure any series of debt securities;
- to provide for the succession of another person pursuant to the provisions of the indenture relating to consolidations, mergers and sales of assets and the assumption by such successor of our covenants, agreements, and obligations, or to otherwise comply with the provisions of the indenture relating to consolidations, mergers, and sales of assets;
- to surrender any right or power conferred upon us under the indenture or to add to our covenants further covenants, restrictions, conditions or provisions for the protection of the holders of all or any series of debt securities;
- to cure any ambiguity or to correct or supplement any provision contained in the indenture, in any supplemental indenture or in any debt securities that may be defective or inconsistent with any other provision contained therein;
- to modify or amend the indenture in such a manner as to permit the qualification of the indenture or any supplemental indenture under the Trust Indenture Act;
- to add to or change any of the provisions of the indenture to supplement any of the provisions of the indenture in order to permit the defeasance and discharge of any series of debt securities pursuant to the indenture, so long as any such action does not adversely affect the interests of the holders of debt securities of any series in any material respect;
- to add to, change, or eliminate any of the provisions of the indenture with respect to one or more series of debt securities, so long as any such addition, change or elimination shall not apply to any debt securities of any series created prior to the execution of such supplemental indenture and entitled to the benefit of such provision;
- to evidence and provide for the acceptance of appointment by a successor or separate trustee; and
- to establish the form or terms of debt securities of any series and to make any change that does not adversely affect the interests of the holders of debt securities.

With the consent of the holders of at least a majority in principal amount of debt securities of each series affected by such supplemental indenture (each series voting as one class), we and the trustee may enter into one or more supplemental indentures for the purpose of adding any provisions to or changing in any manner or eliminating any of the provisions of the indenture or modifying in any manner the rights of the holders of debt securities of each such series.

Notwithstanding our rights and the rights of the trustee to enter into one or more supplemental indentures with the consent of the holders of debt securities of the affected series as described above, no such supplemental indenture shall, without the consent of the holder of each outstanding debt security of the affected series, among other things:

- change the final maturity of the principal of, or any installment of interest on, any debt securities;
- reduce the principal amount of any debt securities or the rate of interest on any debt securities;
- change the currency in which any debt securities are payable;
- impair the right of the holders to conduct a proceeding for any remedy available to the trustee;
- reduce the percentage in principal amount of any series of debt securities whose holders must consent to an amendment or supplemental indenture:
- modify the ranking or priority of the securities; or
- reduce any premium payable upon the redemption of any debt securities.

Satisfaction and Discharge of the Indenture; Defeasance

Except to the extent set forth in a supplemental indenture with respect to any series of debt securities, we, at our election, may discharge the indenture and the indenture shall generally cease to be of any further effect with respect to that series of debt securities if (a) we have delivered to the trustee for cancellation all debt securities of that series (with certain limited exceptions) or (b) all debt securities of that series not previously delivered to the trustee for cancellation shall have become due and payable, or are by their terms to become due and payable within one year or are to be called for redemption within one year, and we have deposited with the trustee the entire amount sufficient to pay at maturity or upon redemption all such debt securities.

In addition, we have a "legal defeasance option" (pursuant to which we may terminate, with respect to the debt securities of a particular series, all of our obligations under such debt securities and the indenture with respect to such debt securities) and a "covenant defeasance option" (pursuant to which we may terminate, with respect to the debt securities of a particular series, our obligations with respect to such debt securities under certain specified covenants contained in the indenture). If we exercise our legal defeasance option with respect to a series of debt securities, payment of such debt securities may not be accelerated because of an event of default. If we exercise our covenant defeasance option with respect to a series of debt securities, payment of such debt securities may not be accelerated because of an event of default related to the specified covenants.

We may exercise our legal defeasance option or our covenant defeasance option with respect to the debt securities of a series only if we irrevocably deposit in trust with the trustee cash or U.S. government obligations (as defined in the indenture) for the payment of principal, premium, if any, and interest with respect to such debt securities to maturity or redemption, as the case may be. In addition, to exercise either of our defeasance options, we must comply with certain other conditions, including the delivery to the trustee of an opinion of counsel to the effect that the holders of debt securities of such series will not recognize income, gain or loss for Federal income tax purposes as a result of such defeasance and will be subject to Federal income tax on the same amounts, in the same manner and at the same times as would have been the case if such defeasance had not occurred (and, in the case of legal defeasance only, such opinion of counsel must be based on a ruling from the Internal Revenue Service or other change in applicable Federal income tax law).

The trustee will hold in trust the cash or U.S. government obligations deposited with it as described above and will apply the deposited cash and the proceeds from deposited U.S. government obligations to the payment of principal, premium, if any, and interest with respect to the debt securities of the defeased series.

Mergers, Consolidations and Certain Sales of Assets

We may not:

- consolidate with or merge into any other person or entity or permit any other person or entity to consolidate with or merge into us in a transaction in which we are not the surviving entity, or
- transfer, lease or dispose of all or substantially all of our assets to any other person or entity,

unless:

- the resulting, surviving or transferee entity shall be a corporation organized and existing under the laws of the United States or any state
 thereof and such resulting, surviving or transferee entity shall expressly assume, by supplemental indenture, executed and delivered in
 form satisfactory to the trustee, all of our obligations under the debt securities and the indenture;
- immediately after giving effect to such transaction (and treating any indebtedness which becomes an obligation of the resulting, surviving or transferee entity as a result of such transaction as having been incurred by such entity at the time of such transaction), no default or event of default would occur or be continuing; and
- we shall have delivered to the trustee an officers' certificate and an opinion of counsel, each stating that such consolidation, merger or transfer and such supplemental indenture (if any) comply with the indenture.

The phrase "substantially all" of our assets will likely be interpreted under applicable state law and will be dependent upon particular facts and circumstances. As a result, there may be a degree of uncertainty in ascertaining whether a sale or transfer of "substantially all" of our assets has occurred.

Governing Law

The indenture and the debt securities will be governed by the laws of the State of New York.

No Personal Liability of Directors, Officers, Employees and Stockholders

No director, officer, incorporator or stockholder of Cue Biopharma, as such, shall have any liability for any obligations of Cue Biopharma under the debt securities or the indenture or for any claim based on, in respect of, or by reason of, such obligations or their creation, solely by reason of his, her, or its status as director, officer, incorporator or stockholder of Cue Biopharma. By accepting a debt security, each holder waives and releases all such liability, but only such liability. The waiver and release are part of the consideration for issuance of the debt securities. Nevertheless, such waiver may not be effective to waive liabilities under the federal securities laws and it has been the view of the SEC that such a waiver is against public policy.

Conversion or Exchange Rights

Any debt securities offered hereby may be convertible into or exchangeable for shares of our equity or other securities. The terms and conditions of such conversion or exchange will be set forth in the applicable prospectus supplement. Such terms may include, among others, the following:

- the conversion or exchange price;
- the conversion or exchange period;

- provisions regarding our ability or that of the holder to convert or exchange the debt securities;
- · events requiring adjustment to the conversion or exchange price; and
- · provisions affecting conversion or exchange in the event of our redemption of such debt securities.

Concerning the Trustee

The indenture provides that there may be more than one trustee with respect to one or more series of debt securities. If there are different trustees for different series of debt securities, each trustee will be a trustee of a trust under a supplemental indenture separate and apart from the trust administered by any other trustee under such indenture. Except as otherwise indicated in this prospectus or any prospectus supplement, any action permitted to be taken by a trustee may be taken by the trustee only with respect to the one or more series of debt securities for which it is the trustee under an indenture. Any trustee under the indenture or a supplemental indenture may resign or be removed with respect to one or more series of debt securities. All payments of principal of, premium, if any, and interest on, and all registration, transfer, exchange authentication and delivery (including authentication and delivery on original issuance of the debt securities) of, the debt securities of a series will be effected by the trustee with respect to such series at an office designated by the trustee.

The indenture contains limitations on the right of the trustee, should it become a creditor of Cue Biopharma, to obtain payment of claims in certain cases or to realize on certain property received in respect of any such claim as security or otherwise. If the trustee acquires an interest that conflicts with any duties with respect to the debt securities, the trustee is required to either resign or eliminate such conflicting interest to the extent and in the manner provided by the indenture.

DESCRIPTION OF WARRANTS WE MAY OFFER

We may issue warrants for the purchase of debt securities, preferred stock or common stock. Warrants may be issued independently or together with debt securities, preferred stock or common stock and may be attached to or separate from any offered securities. Any issue of warrants will be governed by the terms of the applicable form of warrant and any related warrant agreement which we will file with the SEC and they will be incorporated by reference to the registration statement of which this prospectus is a part on or before the time we issue any warrants.

The particular terms of any issue of warrants will be described in the prospectus supplement relating to the issue. Those terms may include:

- the title of such warrants;
- the aggregate number of such warrants;
- the price or prices at which such warrants will be issued;
- the currency or currencies (including composite currencies) in which the price of such warrants may be payable;
- the terms of the securities purchasable upon exercise of such warrants and the procedures and conditions relating to the exercise of such warrants;
- the price at which the securities purchasable upon exercise of such warrants may be purchased;
- the date on which the right to exercise such warrants will commence and the date on which such right shall expire;
- any provisions for adjustment of the number or amount of securities receivable upon exercise of the warrants or the exercise price of the warrants;

- if applicable, the minimum or maximum amount of such warrants that may be exercised at any one time;
- if applicable, the designation and terms of the securities with which such warrants are issued and the number of such warrants issued with each such security;
- if applicable, the date on and after which such warrants and the related securities will be separately transferable;
- information with respect to book-entry procedures, if any; and
- any other terms of such warrants, including terms, procedures and limitations relating to the exchange or exercise of such warrants.

The prospectus supplement relating to any warrants to purchase equity securities may also include, if applicable, a discussion of certain U.S. federal income tax and ERISA considerations.

Warrants for the purchase of preferred stock and common stock will be offered and exercisable for U.S. dollars only.

Each warrant will entitle its holder to purchase the principal amount of debt securities or the number of shares of preferred stock or common stock at the exercise price set forth in, or calculable as set forth in, the applicable prospectus supplement.

After the close of business on the expiration date, unexercised warrants will become void. We will specify the place or places where, and the manner in which, warrants may be exercised in the applicable prospectus supplement.

Prior to the exercise of any warrants to purchase debt securities, preferred stock or common stock, holders of the warrants will not have any of the rights of holders of the debt securities, preferred stock or common stock purchasable upon exercise.

As of December 31, 2018, we have issued warrants to purchase a total of 1,252,441 shares of common stock at a weighted average exercise price of \$7.40 per share. Warrants to purchase total of 370,370 shares of common stock expire in June 2022 and have an exercise price of \$2.70 per share. Warrants to purchase a total of 882,071 shares of common stock expire in December 2022 and have an exercise price of \$9.38 per share.

DESCRIPTION OF UNITS WE MAY OFFER

We may issue units consisting of any combination of the other types of securities offered under this prospectus in one or more series. We may evidence each series of units by unit certificates that we will issue under a separate agreement. We may enter into unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units.

The following description, together with the additional information included in any applicable prospectus supplement, summarizes the general features of the units that we may offer under this prospectus. You should read any prospectus supplement and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the complete unit agreements that contain the terms of the units. Specific unit agreements will contain additional important terms and provisions and we will file as an exhibit to the registration statement of which this prospectus is a part, or will incorporate by reference from another report that we file with the SEC, the form of each unit agreement relating to units offered under this prospectus.

If we offer any units, certain terms of that series of units will be described in the applicable prospectus supplement, including, without limitation, the following, as applicable:

- the title of the series of units;
- identification and description of the separate constituent securities comprising the units;
- the price or prices at which the units will be issued;
- the date, if any, on and after which the constituent securities comprising the units will be separately transferable;
- a discussion of certain United States federal income tax considerations applicable to the units; and
- any other terms of the units and their constituent securities.

PLAN OF DISTRIBUTION

We may sell the securities offered by this prospectus to one or more underwriters or dealers for public offering, through agents, directly to purchasers or through a combination of any such methods of sale. The name of any such underwriters, dealers or agents involved in the offer and sale of the securities, the amounts underwritten and the nature of its obligation to take the securities will be specified in the applicable prospectus supplement. We have reserved the right to sell the securities directly to investors on our own behalf in those jurisdictions where we are authorized to do so. The sale of the securities may be effected in transactions (a) on any national or international securities exchange or quotation service on which the securities may be listed or quoted at the time of sale, (b) in the over-the-counter market, (c) in transactions otherwise than on such exchanges or in the over-the-counter market or (d) through the writing of options.

We and our agents and underwriters may offer and sell the securities at a fixed price or prices that may be changed, at market prices prevailing at the time of sale, at prices related to such prevailing market prices or at negotiated prices. The securities may be offered on an exchange, which will be disclosed in the applicable prospectus supplement. We may, from time to time, authorize dealers, acting as our agents, to offer and sell the securities upon such terms and conditions as set forth in the applicable prospectus supplement.

If we use underwriters to sell securities, we will enter into an underwriting agreement with them at the time of the sale to them. In connection with the sale of the securities, underwriters may receive compensation from us in the form of underwriting discounts or commissions and may also receive commissions from purchasers of the securities for whom they may act as agent. Any underwriting compensation paid by us to underwriters or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers, will be set forth in the applicable prospectus supplement to the extent required by applicable law. Underwriters may sell the securities to or through dealers, and such dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions (which may be changed from time to time) from the purchasers for whom they may act as agents.

Dealers and agents participating in the distribution of the securities may be deemed to be underwriters, and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions under the Securities Act. Unless otherwise indicated in the applicable prospectus supplement, an agent will be acting on a best efforts basis and a dealer will purchase debt securities as a principal, and may then resell the debt securities at varying prices to be determined by the dealer.

If so indicated in the prospectus supplement, we will authorize underwriters, dealers or agents to solicit offers by certain specified institutions to purchase offered securities from us at the public offering price set forth in the prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on a specified date in the future. Such contracts will be subject to any conditions set forth in the applicable prospectus supplement and the prospectus supplement will set forth the commission payable for solicitation of such contracts. The underwriters and other persons soliciting such contracts will have no responsibility for the validity or performance of any such contracts.

Underwriters, dealers and agents may be entitled, under agreements entered into with us, to indemnification against and contribution towards certain civil liabilities, including any liabilities under the Securities Act.

To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain, or otherwise affect the price of the securities. These may include over-allotment, stabilization, syndicate short covering transactions and penalty bids. Over-allotment involves sales in excess of the offering size, which creates a short position. Stabilizing transactions involve bids to purchase the underlying security so long as the stabilizing bids do not exceed a specified maximum. Syndicate short covering transactions involve purchases of securities in the open market after the distribution has been completed in order to cover

syndicate short positions. Penalty bids permit the underwriters to reclaim selling concessions from dealers when the securities originally sold by the dealers are purchased in covering transactions to cover syndicate short positions. These transactions may cause the price of the securities sold in an offering to be higher than it would otherwise be. These transactions, if commenced, may be discontinued by the underwriters at any time.

Any securities other than our common stock issued hereunder may be new issues of securities with no established trading market. Any underwriters or agents to or through whom such securities are sold for public offering and sale may make a market in such securities, but such underwriters or agents will not be obligated to do so and may discontinue any market making at any time without notice. No assurance can be given as to the liquidity of the trading market for any such securities. The amount of expenses expected to be incurred by us in connection with any issuance of securities will be set forth in the applicable prospectus supplement. Certain of the underwriters, dealers or agents and their associates may engage in transactions with, and perform services for, us and certain of our affiliates in the ordinary course of business.

During such time as we may be engaged in a distribution of the securities covered by this prospectus we are required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes us, any affiliated purchasers, and any broker-dealer or other person who participates in such distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase, any security which is the subject of the distribution until the entire distribution is complete. Regulation M also restricts bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. All of the foregoing may affect the marketability of our shares of common stock.

LEGAL MATTERS

K&L Gates LLP, with an office at Hearst Tower, 47th Floor, 214 North Tryon Street, Charlotte, North Carolina 28202, will pass upon the validity of the shares of common stock offered by this prospectus.

EXPERTS

The financial statements of Cue Biopharma, Inc. as of December 31, 2017 and 2016 and for each of the years in the three-year period ended December 31, 2017 included in our annual report on Form 10-K for the year ended December 31, 2017, which is incorporated by reference into this prospectus, have been audited by Gumbiner Savett Inc., independent registered public accounting firm. We have included these financial statements in this prospectus in reliance upon the report of Gumbiner Savett Inc., given on their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We file annual reports, quarterly reports, current reports, proxy statements and other information with the Securities and Exchange Commission (the "SEC"). Our SEC filings are and will become available to the public over the Internet at the SEC's website at www.sec.gov. You may also read and copy any document we file with the SEC at its public reference room at 100 F Street N.E., Washington, D.C. 20549. You can also obtain copies of the documents upon the payment of a duplicating fee to the SEC. Please call the SEC at 1-800-SEC-0330 for further information on the operation of the public reference room.

Our web site is located at www.cuebiopharma.com. The information contained on, or that may be obtained from, our website is not, and shall not be deemed to be, a part of this prospectus.

We will provide, upon written or oral request, without charge to you, including any beneficial owner to whom this prospectus is delivered, a copy of any or all of the documents incorporated herein by reference other than the exhibits to those documents, unless the exhibits are specifically incorporated by reference into the information that this prospectus incorporates. You should direct a request for copies to Cue Biopharma, Inc., 21 Erie Street, Cambridge, Massachusetts 02139; Telephone: (617) 949-2680.

INCORPORATION BY REFERENCE

The SEC allows us to "incorporate by reference" information from other documents that we file with it, 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. Information in this prospectus supersedes information incorporated by reference that we filed with the SEC prior to the date of this prospectus.

We incorporate by reference into this prospectus and the registration statement of which this prospectus is a part the information or documents listed below that we have filed with the SEC:

- Annual Report on Form 10-K for the fiscal year ended December 31, 2017 filed with the SEC on March 29, 2018;
- Quarterly Reports on Form 10-Q for the quarter ended March 31, 2018 filed with the SEC on May 14, 2018, the quarter ended June 30, 2018 filed with the SEC on August 13, 2018, and the quarter ended September 30, 2018 filed with the SEC on November 13, 2018;

- Current Reports on Form 8-K filed with the SEC on <u>January 26, 2018</u>, <u>April 30, 2018</u>, <u>June 12, 2018</u>, <u>June 20, 2018</u>, <u>June 25, 2018</u>, <u>June 26, 2018</u>, <u>August 3, 2018</u>, <u>November 8, 2018</u>, <u>November 13, 2018</u> and <u>December 26, 2018</u> (other than any portions thereof that are not considered to be "filed" with the Commission);
- Definitive Proxy Statement on Schedule 14A related to our 2018 Annual Meeting of Stockholders, filed with the SEC on April 30, 2018; and
- The description of the Company's Common Stock contained in the Company's Registration Statement on Form 8-A (File No. 001-37969) filed with the SEC on December 13, 2017 pursuant to Section 12(g) of the Exchange Act, including any amendment or reports filed for the purpose of updating such description.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made on or after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of securities made by this prospectus and will become a part of this prospectus from the date that such documents are filed with the SEC. Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later filed document modify or replace such earlier statements.

We will furnish without charge to you, on written or oral request, a copy of any or all of the documents incorporated by reference, including exhibits to these documents. You should direct any requests for documents to Cue Biopharma, Inc., 21 Erie Street, Cambridge, Massachusetts 02139; Telephone: (617) 949-2680. Copies of the above reports may also be accessed from our web site at www.cuebiopharma.com. We have authorized no one to provide you with any information that differs from that contained in this prospectus. Accordingly, you should not rely on any information that is not contained in this prospectus. You should not assume that the information in this prospectus is accurate as of any date other than the date of the front cover of this prospectus.

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



\$35,000,000 Common Stock

PROSPECTUS SUPPLEMENT March 27, 2020

STIFEL