



1,017,272 Shares of Common Stock

Series B Pre-funded Warrants to Purchase 482,728 Shares of Common Stock

We are offering an aggregate 1,500,000 shares of our common stock, consisting of 1,017,272 shares of common stock and Series B pre-funded warrants to purchase 482,728 shares of our common stock. In a concurrent private placement, we are selling to the purchasers of shares of our common stock and Series B pre-funded warrants in this offering Series A warrants to purchase an aggregate of 1,500,000 shares of our common stock at an exercise price of \$2.83 per share, which we refer to as the Series A warrants. The offering and sale of the Series A warrants and the shares of our common stock issuable upon the exercise of the Series A warrants are not being registered under the Securities Act of 1933, as amended, or Securities Act, are not being offered pursuant to this prospectus supplement and the accompanying prospectus and are being offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder.

Our common stock is listed on the NASDAQ Capital Market under the symbol "CLRB." On September 28, 2015, the last reported sale price of our common stock on the NASDAQ Capital Market was \$2.19 per share.

As of August 5, 2015, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$14.7 million, which was calculated based on 4,477,364 shares of outstanding common stock held by non-affiliates and on a price per share of \$3.30, which was the closing price of our common stock on the NASDAQ Capital Market on that day. During the prior 12 calendar month period that ends on, and includes, the date of this prospectus supplement, and including this offering, we have offered securities with an aggregate market value of \$3.3 million pursuant to General Instruction I.B.6 of Form S-3.

You should read this prospectus supplement and the accompanying prospectus and the documents incorporated by reference in this prospectus supplement carefully before you invest.

Investing in our securities involves various risks. See "Risk Factors" beginning on page S-7 of this prospectus supplement to read about factors you should consider before buying shares of our common stock.

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

We have retained Ladenburg Thalmann & Co. Inc. to act as our exclusive placement agent in connection with this offering. The placement agent has agreed to use its reasonable best efforts to place the securities offered by this prospectus supplement. We have agreed to pay the placement agent the fee set forth in the table below.

	Per Share	Total
Public offering price	\$ 2.20	\$ 3,300,000
Placement agent fees ⁽¹⁾	\$ 0.165	\$ 247,500
Proceeds, before expenses, to Cellecstar Bioscience, Inc.	\$ 2.035	\$ 3,052,500

(1) In addition, we have agreed to reimburse the placement agent's actual out-of-pocket expenses up to \$65,000, in the aggregate, and to issue to the placement agent as compensation a warrant to purchase a number of shares of our common stock equal to 2.5% of the number of shares of common stock sold or pre-funded in this offering. See "Plan of Distribution".

We expect that delivery of the shares of our common stock being offered pursuant to this prospectus supplement and the accompanying prospectus will be made to purchasers through the facilities of The Depository Trust Company on or about October 1, 2015.

LADENBURG THALMANN

The date of this prospectus supplement is September 30, 2015.

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ABOUT THIS PROSPECTUS SUPPLEMENT

This document consists of two parts. The first part is this prospectus supplement, which describes the specific terms of the offering and other matters relating to us. The second part is the accompanying prospectus, which provides more general information about the securities we may offer from time to time, some of which may not apply to this offering. This prospectus supplement and the accompanying prospectus are part of a registration statement that we filed with the Securities and Exchange Commission, or the SEC, using the SEC's shelf registration rules. You should read this prospectus supplement, the registration statement of which this prospectus supplement forms a part, and the accompanying prospectus, together with the documents incorporated by reference and the additional information described under the heading "Where You Can Find More Information" in the accompanying prospectus before making an investment decision.

To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus, on the other hand, the information contained in this prospectus supplement shall control. If any statement in this prospectus supplement conflicts with any statement in a document that has been incorporated herein by reference, then you should consider only the statement in the more recent document. You should assume that the information contained in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference is accurate only as of their respective dates.

We have not, and the placement agent has not, authorized any person to provide you with any information or to make any representation other than as contained in this prospectus supplement or in the accompanying prospectus and the information incorporated by reference herein and therein. We and the placement agent do not take any responsibility for, and can provide no assurance as to the reliability of, any information that others may provide you. The information appearing or incorporated by reference in this prospectus supplement and the accompanying prospectus is accurate only as of the date of this prospectus supplement or the date of the document in which incorporated information appears unless otherwise noted in such documents. Our business, financial condition, results of operations and prospects may have changed since those dates.

The distribution of this prospectus supplement and the accompanying prospectus and the offering of the common stock in certain jurisdictions may be restricted by law. We are not, and the placement agent is not, making an offer of the common stock in any jurisdiction where the offer is not permitted. Persons who come into possession of this prospectus supplement and the accompanying prospectus should inform themselves about and observe any such restrictions. This prospectus supplement and the accompanying prospectus do not constitute, and may not be used in connection with, an offer or solicitation by anyone in any jurisdiction in which such offer or solicitation is not authorized or in which the person making such offer or solicitation is not qualified to do so or to any person to whom it is unlawful to make such offer or solicitation.

Unless otherwise stated or unless the context otherwise requires, all references to "we," "us," "our," "our company" or "the Company" in this prospectus refer collectively to Cellestar Biosciences, Inc., a Delaware corporation.

SPECIAL NOTE REGARDING FORWARD LOOKING STATEMENTS

Information set forth in this prospectus supplement and the prospectus and the information they incorporate by reference may contain various “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, or the Exchange Act.

All statements, other than statements of historical fact, included or incorporated by reference in this prospectus supplement and the prospectus regarding our business strategy, future operations, projected financial position, potential strategic transactions, proposed distribution channels, projected sales growth, proposed new products, estimated future revenues, cash flows and profitability, projected costs, potential sources of additional capital, future prospects, future economic conditions, the future of our industry and results that might be obtained by pursuing management’s current plans and objectives are forward-looking statements. The words “believe,” “anticipate,” “estimate,” “plan,” “expect,” “intend,” “may,” “could,” “should,” “potential,” “likely,” “projects,” “continue,” “will,” and “would” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements reflect our current views with respect to future events and are based on assumptions and are subject to risks and uncertainties. We cannot guarantee that we actually will achieve the plans, intentions or expectations expressed in our forward-looking statements and you should not place undue reliance on these statements. There are a number of important factors that could cause our actual results to differ materially from those indicated or implied by forward-looking statements. Examples of risks and uncertainties that could cause actual results to differ materially from historical performance and any forward-looking statements include, but are not limited to, the risks described under the heading “Risk Factors” beginning on page S-7 of this prospectus supplement, as well as those included in our most recent Annual Report on Form 10-K/A and any subsequent filings with the SEC. Given these risks, uncertainties and other factors, you should not place undue reliance on these forward-looking statements. Also, these forward-looking statements represent our estimates and assumptions only as of the date such forward-looking statements are made. You should read carefully this prospectus supplement, the prospectus, and any related free writing prospectuses that we have authorized for use in connection with this offering, together with the information incorporated herein or therein by reference as described under the heading “Where You Can Find More Information,” completely and with the understanding that our actual future results may be materially different from what we expect. We hereby qualify all of our forward-looking statements by these cautionary statements. Except as required by law, we assume no obligation to update these forward-looking statements publicly or to update the reasons actual results could differ materially from those anticipated in these forward-looking statements, even if new information becomes available in the future.

SUMMARY

This summary is not complete and does not contain all of the information you should consider before investing in the securities offered by this prospectus and prospectus supplement. You should read this summary together with the entire prospectus supplement and prospectus, including our financial statements, the notes to those financial statements, and the other documents identified under the headings "Where You Can Find More Information" and "Incorporation of Documents by Reference" in the accompanying prospectus, before making an investment decision. See the Risk Factors section of this prospectus supplement on page S-7 for a discussion of the risks involved in investing in our securities.

Collectar Biosciences, Inc.

The Company is a biopharmaceutical company developing phospholipid ether-drug conjugates (PDCs) for the treatment and diagnostic imaging of cancer. Our PDC platform is based on our cancer-targeting and delivery technology which provides selective delivery of a diverse range of oncologic payloads to cancer cells, including cancer stem cells. By linking various payloads to our proprietary phospholipid ether cancer-targeting vehicle, we believe we can create PDCs with the potential to provide highly targeted delivery of chemotherapeutic and radiotherapeutic payloads to a broad range of cancers. As a result, our PDC platform has the potential to improve the therapeutic index of payloads by minimizing delivery to healthy cells while enhancing delivery to a broad range of cancers.

The Company currently has several proprietary product candidates in development, including:

- I-131-CLR1404 is a small-molecule, broad-spectrum, cancer-targeting radiotherapeutic PDC that is designed to deliver cytotoxic (cell-killing) radiation directly and selectively to cancer cells and cancer stem cells. I-131-CLR1404 is our lead PDC therapeutic product candidate and is currently being evaluated in a phase I study in relapse/refractory multiple myeloma. This indication was selected for clinical and business related reasons including multiple myeloma's highly radiosensitive nature, clear unmet medical need in the relapse/refractory setting and orphan drug designation. Multiple myeloma is an incurable cancer of plasma cells. The Investigational New Drug (IND) application was accepted by the U.S. Food and Drug Administration (FDA) in March 2014. In December 2014, the FDA granted orphan drug designation for I-131-CLR1404 for the treatment of multiple myeloma. We initiated the phase I study in April of this year and anticipate evaluating our first cohort and initiating the second cohort in Q1 2016. The primary goal of the phase I study is to identify a phase II dose, and possibly obtain an early read on low dose efficacy.
- CLR1601-PTX and CLR 1605-GEM are small-molecule, broad-spectrum, cancer-targeting therapeutic PDCs designed to deliver their respective chemotherapeutic payloads, paclitaxel and gemcitabine, selectively and directly to cancer cells and cancer stem cells. Both PDCs are pre-clinical, and we are developing *in vitro* and *in vivo* data to demonstrate stability and efficacy.
- I-124-CLR1404 is a small-molecule, broad-spectrum, cancer-targeting positron emission tomography (PET) imaging PDC that we believe has the potential to be the first of its kind for the selective detection of tumors and metastases in a broad range of cancers. I-124-CLR1404 has been used for PET/CT imaging in a broad array of tumor types via both Company and investigator-sponsored clinical trials, and we are in the process of evaluating the data from those studies. In April 2014, the FDA granted I-124-CLR1404 orphan status as a diagnostic for the management of glioma.
- CLR1502 is a small-molecule, broad-spectrum cancer-targeting, NIR-fluorophore optical imaging PDC for intraoperative tumor and tumor margin illumination. This past June, after review of the Company's IND application, the FDA determined that CLR1502 will be evaluated as a combination product and assigned to the Center for Devices and Radiological Health (CDRH). As a result of this classification, the FDA has advised Collectar that it will need to submit a new investigational application for the combination product prior to initiating its phase I study in breast cancer surgery. As a result, Collectar is identifying the optimal clinical development pathway. Based on the Company's assessment, the product will be similarly treated post marketing approval regardless of regulatory pathway.

We believe our PDC platform has potential to provide targeted delivery of oncologic payloads, as exemplified by the product candidates listed above, that may result in improvements upon current standard of care (SOC) for the treatment, diagnosis and imaging of a broad range of human cancers.

Our headquarters and manufacturing operation is located at 3301 Agriculture Drive, Madison, Wisconsin 53716. We maintain a website at www.collectar.com. The information included or referred to on, or accessible through, our website does not constitute part of, and is not incorporated by reference into, this prospectus supplement.

THE OFFERING

Common stock offered by us:	1,017,272 shares
Offering price:	\$2.20 per share
Common stock outstanding before this offering:	7,564,133 shares
Common stock to be outstanding after the offering:	8,581,405 shares
Series B pre-funded warrants	We are offering Series B pre-funded warrants to purchase up to 482,728 shares of our common stock. Each Series B pre-funded warrant is exercisable upon issuance, subject to certain limitations. This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise of the Series B pre-funded warrants. There is currently no market for the Series B pre-funded warrants and none is expected to develop after this offering.
Use of proceeds:	We expect to receive net proceeds of approximately \$2.9 million from this offering and the concurrent private placement after deducting the placement agent fees and estimated offering expenses payable by us. We intend to use the net proceeds from this offering for general corporate purposes, including working capital. See “Use of Proceeds”.
Risk factors:	Investing in our securities involves a high degree of risk. See the “Risk Factors” section of this prospectus supplement on page S-7 and in the documents we incorporate by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors you should consider carefully before deciding to invest in our securities.
NASDAQ Capital Market symbol:	CLRB
Concurrent Private Placement	In a concurrent private placement, we are selling to the purchasers of shares of our common stock in this offering Series A warrants to purchase 1,500,000 shares of our common stock. The Series A warrants will become exercisable six months following the closing date of the offering at an exercise price of \$2.83 per share and will expire on the fifth anniversary of the date that the Series A warrants become exercisable. The Series A warrants and the shares of our common stock issuable upon the exercise of the Series A warrants, are not being offered pursuant to this prospectus supplement and the accompanying prospectus and are being offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder. See “Private Placement Transaction.”

The number of shares of our common stock to be outstanding after this offering is based on 7,564,133 shares of common stock outstanding as of September 28, 2015 and excludes, as of that date:

- shares issuable upon the exercise of the Series A warrants and the Series B pre-funded warrants;
- an aggregate of 788,383 shares of common stock issuable upon the exercise of outstanding stock options issued to employees, directors and consultants;
- an aggregate of 986,649 additional shares of common stock reserved for future issuance under our 2015 Stock Incentive Plan; and
- an aggregate of 6,597,479 additional shares of common stock reserved for issuance under outstanding warrant agreements entered into having expiration dates between December 31, 2015 and February 20, 2018, and exercise prices ranging from \$3.75 per share to \$2,019.60 per share.

Unless we specifically state otherwise, the share information in this prospectus is as of September 28, 2015 and reflects or assumes no exercise of outstanding options or warrants to purchase shares of our common stock.

RISK FACTORS

An investment in our securities is speculative and involves a high degree of risk. You should carefully consider the risks under the heading “Risk Factors” in our Annual Report on Form 10-K/A for the fiscal year ended December 31 2014 filed with the SEC on May 20, 2015, our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2015, filed with the SEC on May 20, 2015, and our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2015, filed with the SEC on August 12, 2015, which information is incorporated by reference in this prospectus supplement, and the additional risks described below and other information in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein before deciding to invest in our common stock. If any of the risks described or incorporated by reference into this prospectus supplement actually occur, our business, results of operations, financial condition and cash flows could be materially adversely affected, the trading price of our common stock could decline significantly, and you might lose all or part of your investment. Additional risks and uncertainties that we are unaware of or that we believe are not material at this time could also materially adversely affect our business, financial condition or results of operations. In any case, the value of our securities could decline, and you could lose all or part of your investment, or our use of the offering proceeds may not yield a favorable return on your investment. You should also refer to our financial statements and the notes to those statements, which are incorporated by reference in this prospectus supplement.

Risks Related to this Offering

Our management team will have immediate and broad discretion over the use of the net proceeds from this offering and we may use the net proceeds in ways with which you disagree.

The net proceeds from this offering will be immediately available to our management to use at their discretion. We currently intend to use the net proceeds as discussed under “Used of Proceeds” in this prospectus supplement. We have not allocated specific amounts of the net proceeds from this offering for any other purposes. Accordingly, our management will have significant discretion and flexibility in applying the net proceeds of this offering. You will be relying on the judgment of our management with regard to the use of these net proceeds, and you will not have the opportunity, as part of your investment decision, to assess whether the proceeds are being used appropriately. It is possible that the net proceeds will be invested in a way that does not yield a favorable, or any, return for us or our stockholders. The failure of our management to use such funds effectively could have a material adverse effect on our business, prospects, financial condition, and results of operation.

There is uncertainty regarding the application of the federal and state securities laws to our offering of common stock and warrants, and there is a corresponding risk that we could be required to refund the purchase price of securities offered to purchasers who so elect.

We are conducting an offering under a registration statement filed with the Securities and Exchange Commission and a concurrent private placement intended to comply with the requirements of Section 4(a)(2) under the Securities Act of 1933, as amended, and Rule 506(b) promulgated thereunder. See “Private Placement Transaction.” Shares of common stock and warrants are being offered and sold in combination. The shares of common stock and Series B pre-funded warrants are intended to be offered and sold in a transaction registered under the Securities Act, while the Series A warrants and shares of common stock issuable thereunder are intended to be offered and sold in a private placement exempt from the registration requirements of the Securities Act.

While we are aware of other transactions using a concurrent public/private offering approach, the Commission has not addressed whether concurrent public and private offerings and sales to the same prospective investors would adversely impact the public offering or preclude the private offering from satisfying the requirements of Rule 506(b). If the securities offered in our concurrent private placement do not satisfy the conditions of Rule 506(b), the offering would be a violation of Section 5 of the Securities Act and each purchaser would have the right to rescind its purchase of the securities, meaning that we would be required to refund the purchase price of the securities to each purchaser electing rescission. If that were to occur, we would face severe financial demands and reputational harm that could adversely affect our business and operations. Additionally, if we did not in fact qualify for the exemptions upon which it has relied, we may become subject to significant fines and penalties imposed by the Commission. It is also possible that additional remedies may be available to purchasers under applicable state law.

If we are unable to obtain stockholder approval for the issuance of the all of the shares of common stock upon exercise of the Series B pre-funded warrants or exercise of the Series A warrants, we will be limited in our ability to issue our equity securities.

We agreed to seek approval from our stockholders as may be required by the applicable rules and regulations of the Nasdaq Stock Market, including certain adjustments to the exercise price of the Series B pre-funded Warrants. We refer to this approval as the stockholder approval. We have agreed to hold a special meeting of stockholders for the purpose of obtaining the stockholder approval at the earliest practical date following the issuance of the Series B pre-funded warrants, and in any event no later than 60 days following the issuance of the Series B pre-funded warrants. If we are unable to obtain the stockholder approval, we will be required to call a meeting every 90 days to continue seeking the stockholder approval until obtained or until no Series B pre-funded warrants are outstanding.

In addition, among other conditions, until we obtain stockholder approval, we will be required to continue complying with negative covenants that limit our ability to issue equity securities except in limited circumstances, which could adversely impact our ability to fund our operations.

You will experience immediate and substantial dilution as a result of this offering and may experience additional dilution in the future.

You will incur immediate and substantial dilution as a result of this offering. After giving effect to the sale by us of the shares of common stock offered in this offering and after deducting the placement agent's fee and other estimated offering expenses payable by us, investors in this offering can expect an immediate dilution of \$1.25 per share, or 56.8%, at the public offering price. In addition, in the past, we issued options and warrants to acquire shares of common stock. To the extent these options are ultimately exercised, you will sustain future 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 in this offering. We may sell shares or other securities in any other offering at a price that is less than the price paid by investors in this offering, and investors purchasing shares or other securities in the future could have rights superior to existing stockholders. The price at which we sell additional shares of our common stock, or securities convertible or exchangeable into common stock, in future transactions may be higher or lower than the price paid by investors in this offering.

USE OF PROCEEDS

We expect to receive net proceeds of approximately \$2.9 million from this offering and the concurrent private placement after deducting the placement agent fee and estimated offering expenses payable by us.

We cannot specify with certainty all of the particular uses for the net proceeds to be received upon the completion of the offering. The amount and timing of our actual expenditures may vary significantly depending upon numerous factors, including fluctuations in our operating costs and capital expenditures and other factors described under “Risk Factors.” We may find it necessary or advisable to use the net proceeds for other purposes, and our management will retain broad discretion in the allocation of the net proceeds from this offering.

We intend to use the net proceeds from this offering for general corporate purposes, including working capital. Pending the use of the net proceeds of this offering, we intend to invest the net proceeds in short-term investment-grade, interest-bearing securities.

DILUTION

Our net tangible book value as of June 30, 2015 was \$5,582,449, or \$0.74 per share of common stock, based upon 7,562,762 shares outstanding as of that date. Net tangible book value per share is determined by dividing such number of outstanding shares of common stock into our net tangible book value, which is our total tangible assets, less total liabilities, excluding the derivative liability of \$4,884,540 at that date. After giving effect to the sale of 1,017,272 shares of common stock and Series B pre-funded warrants to purchase 482,728 shares of common stock in this offering, both at the public offering price of \$2.20 per share, and after deducting the placement agent's fees and other estimated offering expenses payable by us, our adjusted net tangible book value at June 30, 2015 would have been approximately \$8.6 million, or \$0.95 per share. This represents an immediate increase in net tangible book value of approximately \$0.21 per share to our existing stockholders, and an immediate dilution of \$1.25 per share to investors purchasing securities in the offering.

The following table illustrates the per share dilution to investors purchasing securities in the offering:

Public offering price per share of common stock		\$	2.20
Net tangible book value per share as of June 30, 2015	\$	0.74	
Increase per share attributable to sale of securities to investors	\$	<u>0.21</u>	
Adjusted net tangible book value per share after the offering		\$	0.95
Dilution per share to investors		\$	<u>1.25</u>

The foregoing illustration does not reflect the potential dilution from the exercise of outstanding options or warrants to purchase shares of our common stock or reflect the dilution that would result from the exercise of the Series A warrants sold in the concurrent private placement transaction, as described below under "Private Placement Transaction."

DESCRIPTION OF COMMON STOCK

A description of the common stock we are offering pursuant to this prospectus supplement is set forth under the heading “Description of Common Stock” beginning on page 6 of the accompanying prospectus. As of September 28, 2015, we had 7,564,133 shares of common stock outstanding.

DESCRIPTION OF SERIES B PRE-FUNDED WARRANTS

The following is a brief summary of certain terms and conditions of the Series B pre-funded warrants being offered by this prospectus supplement. The following description is subject in all respects to the provisions contained in the Series B pre-funded warrants.

Form. The Series B pre-funded warrants will be issued as individual warrant agreements to the investors. You should review the form of Series B pre-funded warrant, which is filed as an exhibit to our Current Report on Form 8-K that we filed with the Securities and Exchange Commission, or SEC, on September 30, 2015 and that has been incorporated into this prospectus supplement by reference, for a complete description of the terms and conditions applicable to the Series B pre-funded warrants.

Exercisability. The Series B pre-funded warrants are exercisable at any time after their original issuance. The Series B pre-funded warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice. No fractional shares of common stock will be issued in connection with the exercise of a Series B pre-funded warrant. The number of shares of common stock underlying the Series B pre-funded warrants are subject to adjustment due to stock dividends and splits. In addition, from and after the time the stockholder approval has been obtained, if we issue shares of stock at a purchase price, which we refer to as the dilutive price, less than the then-effective warrant share purchase price, which is initially \$2.20 per share, the number of shares of common stock issuable upon the exercise of the Series B pre-funded warrants shall be increased to equal (i) the product of the then-effective warrant share purchase price multiplied by the number of shares of our common stock for which the Series B pre-funded warrants may be exercised, divided by (ii) the dilutive price. Following any such adjustment, the warrant share purchase price shall be adjusted to equal the dilutive price.

Exercise Limitations. A holder will not have the right to exercise any portion of a Series B pre-funded warrant if the holder (together with its affiliates) would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the Series B pre-funded warrants. However, any holder may increase or decrease such percentage to any other percentage, but in no event above 9.99%, provided that any increase of such percentage will not be effective until 61 days after notice of such increase from the holder to us.

Transferability. Subject to applicable laws, the Series B pre-funded warrants may be offered for sale, sold, transferred or assigned without our consent.

Exchange Listing. We do not plan on applying to list the Series B pre-funded warrants on the Nasdaq Capital Market, any other national securities exchange or any other nationally recognized trading system.

Fundamental Transactions. In the event of a fundamental transaction, as described in the Series B pre-funded warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, the holders of the Series B pre-funded warrants will be entitled to receive upon exercise of the Series B pre-funded warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the Series B pre-funded warrants immediately prior to such fundamental transaction.

Rights as a Stockholder. Except by virtue of such holder’s ownership of shares of our common stock, the holder of a pre-funded warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the Series B pre-funded warrant.

PRIVATE PLACEMENT TRANSACTION

In a concurrent private placement, which we refer to as the private placement transaction, we are selling to the purchasers of our common stock and Series B pre-funded warrants in this offering Series A warrants to purchase one share of our common stock for each share of common stock purchased or pre-funded in this offering.

The offering and sale of the Series A warrants and the shares of our common stock issuable upon the exercise of the Series A warrants are not being registered under the Securities Act, are not being offered pursuant to this prospectus supplement and the accompanying prospectus and are being offered pursuant to the exemption provided in Section 4(a)(2) under the Securities Act and Rule 506(b) promulgated thereunder. Accordingly, purchasers may only sell shares of common stock issued upon the exercise of a Series A warrant pursuant to an effective registration statement under the Securities Act covering the resale of those shares, an exemption under Rule 144 under the Securities Act or another applicable exemption under the Securities Act.

Each Series A warrant will become exercisable six months after the closing date of this offering, which we refer to as the initial exercise date, at an exercise price of \$2.83 per share, subject to adjustment, and will remain exercisable for five (5) years from the date it becomes exercisable, but not thereafter. A holder of Series A warrants will not have the right to exercise any portion of its warrants if the holder, together with its affiliates, would beneficially own in excess of 4.99% of the number of shares of our common stock outstanding immediately after giving effect to such exercise, which we refer to as the beneficial ownership limitation; provided, however, that upon 61 days' prior notice to us, the holder may increase or decrease the beneficial ownership limitation, provided that in no event shall the beneficial ownership limitation exceed 9.99% and any increase in the beneficial ownership limitation will not be effective until 61 days following notice of such increase from the holder to us. In addition, the holders of the Series A warrants will have the right to participate in any rights offering or distribution of assets (such as a spinoff) together with the holders of our common stock on an as-exercised basis.

The exercise price and number of the shares of our common stock issuable upon the exercise of the Series A warrants issuable upon exercise of the Series A warrants will be subject to adjustment in the event of any stock dividends and splits, reverse stock split, stock dividend, recapitalization, reorganization or similar transaction, as described in the Series A warrants. In addition, from and after the time the stockholder approval has been obtained until we complete an equity financing with gross proceeds of at least \$10.0 million, if we issue shares of our common stock for a purchase price less than the then-effective exercise price for the Series A warrants, the exercise price of the Series A warrants will be lowered to equal that lower price.

The Series A warrants will be exercisable on a "cashless" basis in certain circumstances. In addition, in the event of a fundamental transaction that is (i) an all cash or substantially all cash transaction, (ii) a "Rule 13e-3 transaction" as defined in Rule 13e-3 under the Securities Exchange Act of 1934, as amended, or (iii) with certain limited exceptions, a fundamental transaction involving a person or entity not traded on a national securities exchange, including, but not limited to, the Nasdaq Global Select Market, the Nasdaq Global Market, or the Nasdaq Capital Market, then the Company or any successor entity will pay at the holder's option, exercisable at any time concurrently with or within 30 days after the consummation of the fundamental transaction, an amount of cash equal to the value of the Series A warrant as determined in accordance with the Black-Scholes option pricing model.

The Series A warrants will be exercisable on a "cashless" basis in certain circumstances. In addition, in the event of a fundamental transaction we or any successor entity will pay at the holder's option, exercisable at any time concurrently with or within 30 days after the consummation of the fundamental transaction, an amount of cash equal to the value of the Series A warrants as determined in accordance with the Black Scholes option pricing model.

We will be required to file a registration statement on Form S-3 within 60 calendar days of the completion of the private placement transaction to provide for the resale of the shares of common stock issuable upon the exercise of the Series A warrants and will be obligated to use our commercially reasonable efforts to keep such registration statement effective from the date the Series A warrants initially become exercisable until the earlier of (i) the date on which the shares of common stock issuable upon the exercise of the Series A warrants may be sold without registration pursuant to Rule 144 under the Securities Act, or (ii) the date on which all of the shares of common stock issuable upon the exercise of the Series A warrants have been sold under the registration statement or pursuant to Rule 144 under the Securities Act or any other rule of similar effect.

PLAN OF DISTRIBUTION

Ladenburg Thalmann & Co. Inc., which we refer to as the placement agent, has agreed to act as our exclusive placement agent in connection with this offering subject to the terms and conditions of the placement agent agreement dated September 28, 2015. The placement agent is not purchasing or selling any of the shares of our common stock offered by this prospectus supplement, nor is it required to arrange the purchase or sale of any specific number or dollar amount of shares of our common stock, but has agreed to use its reasonable best efforts to arrange for the sale of all of the shares of our common stock offered hereby. Therefore, we will enter into a securities purchase agreement directly with investors in connection with this offering and we may not sell the entire amount of shares of our common stock offered pursuant to this prospectus supplement. We will make offers only to a limited number of qualified institutional buyers and institutional accredited investors. Ladenburg Thalmann & Co. Inc. is also acting as placement agent for the private placement transaction and is being paid a fee related to the placement of the Series A warrants.

We have agreed to indemnify the placement agent against specified liabilities, including liabilities under the Securities Act, and to contribute to payments the placement agent may be required to make in respect thereof.

Fees and Expenses

We have agreed to pay the placement agent a placement agent's fee equal to 7.5% of the aggregate purchase price of the shares of our common stock sold in this offering. The following table shows the per share and total cash placement agent's fees we will pay to the placement agent in connection with the sale of the shares of our common stock offered pursuant to this prospectus supplement and the accompanying prospectus, assuming the purchase of all of the shares offered hereby.

	Per Share	Total
Public offering price	\$ 2.20	\$ 3,300,000
Placement agent fees	\$ 0.165	\$ 247,500
Proceeds, before expenses, to us	\$ 2.035	\$ 3,052,500

In addition, we have agreed to reimburse the placement agent's actual out-of-pocket expenses up to \$65,000, in the aggregate.

We estimate that the total expenses of the offering payable by us, excluding the placement agent fees, will be approximately \$170,000.

In addition, we have agreed to grant compensation warrants to the placement agent to purchase a number of shares of common stock equal to 2.5% of the aggregate number of shares sold to the investors in this offering. The compensation warrants will have an exercise price of \$2.75 (125% of the public offering price per share) and terminate on the fifth anniversary of the effective date of this offering. Pursuant to FINRA Rule 5110(g), the compensation warrants and any shares issued upon exercise of the compensation warrants shall not be sold, transferred, assigned, pledged, or hypothecated, or be the subject of any hedging, short sale, derivative, put, or call transaction that would result in the effective economic disposition of the securities by any person for a period of 180 days immediately following the date of effectiveness or commencement of sales of this offering, except the transfer of any security:

- by operation of law or by reason of reorganization of our company;
- to any FINRA member firm participating in the offering and the officers or partners thereof, if all securities so transferred remain subject to the lock-up restriction set forth above for the remainder of the time period;
- that is beneficially owned on a pro-rata basis by all equity owners of an investment fund, *provided* that no participating member manages or otherwise directs investments by the fund, and participating members in the aggregate do not own more than 10% of the equity in the fund; or
- the exercise or conversion of any security, if all securities received remain subject to the lock-up restriction set forth above for the remainder of the time period.

In addition, we have granted a right of first refusal to the placement agent pursuant to which it has the right to act as the lead placement agent or lead underwriter, as applicable, if the Company or any of its subsidiaries decides to raise funds by means of a public offering or a private placement of equity or equity-linked financings using a placement agent or underwriter at any time prior to the first anniversary of the closing of this offering.

The placement agent may be deemed to be an underwriter within the meaning of Section 2(a)(11) of the Securities Act, and any commissions received by it and any profit realized on the resale of the shares sold by it while acting as principal might be deemed to be underwriting discounts or commissions under the Securities Act. As an underwriter, the placement agent would be required to comply with the requirements of the Securities Act and the Exchange Act, including, without limitation, Rule 415(a)(4) under the Securities Act and Rule 10b-5 and Regulation M under the Exchange Act. These rules and regulations may limit the timing of purchases and sales of shares by the placement agent acting as principal. Under these rules and regulations, the placement agent:

- may not engage in any stabilization activity in connection with our securities; and
- may not bid for or purchase any of our securities or attempt to induce any person to purchase any of our securities, other than as permitted under the Exchange Act, until it has completed its participation in the distribution.

EXPERTS

The audited financial statements incorporated by reference in this prospectus supplement, the accompanying prospectus and elsewhere in the registration statement have been so incorporated by reference in reliance upon the report of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing.

LEGAL MATTERS

The legality of the securities offered hereby will be passed upon for us by Foley Hoag LLP of Boston, Massachusetts.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and special reports, and other information with the Securities and Exchange Commission. Copies of the reports and other information may be read and copied at the SEC's Public Reference Room at 100 F Street NE, Washington, D.C. 20549. You can request copies of such documents by writing to the SEC and paying a fee for the copying cost. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains a web site at <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information into this prospectus supplement. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be a part of this prospectus supplement, except for any information that is superseded by information that is included directly in this prospectus supplement or incorporated by reference subsequent to the date of this prospectus supplement. We do not incorporate the contents of our website into this prospectus supplement. This prospectus supplement incorporates by reference the documents listed below that we have previously filed with the SEC. They contain important information about us and our financial condition. The following documents are incorporated by reference into this prospectus supplement:

- our Annual Report on Form 10-K/A for the fiscal year ended December 31, 2014 filed on May 20, 2015;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2015 filed on May 20, 2015;
- our Quarterly Report on Form 10-Q for the quarter ended June 30, 2015 filed on August 12, 2015;
- our Current Report on Form 8-K for the event date of June 9, 2015 filed on June 11, 2015;
- our Current Report on Form 8-K for the event date of June 15, 2015 filed on June 16, 2015;
- our Current Report on Form 8-K for the event date of June 15, 2015 filed on June 19, 2015;
- our Current Report on Form 8-K for the event date of July 1, 2015 filed on July 8, 2015;
- our Current Report on Form 8-K for the event date of July 28, 2015 filed on July 31, 2015;
- our Current Report on Form 8-K for the event date of August 14, 2015 filed on August 19, 2015;
- our Current Report on Form 8-K for the event date of September 28, 2015 filed on September 30, 2015;
- the description of our securities contained in our Registration Statement on Form 8-A filed on August 14, 2014, including any amendment or report filed for the purpose of updating such description.

In addition, we incorporate by reference all documents that we may file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act on or after the date of this prospectus supplement until the date on which this registration statement has been withdrawn. These documents will become a part of this prospectus supplement from the date that the documents are filed with the SEC. These documents include periodic reports, such as annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, excluding any information filed or furnished pursuant to Item 2.02, Item 7.01 or Item 9.01 and excluding any information furnished pursuant to Item 8.01 of any current report on Form 8-K solely for purposes of satisfying the requirements of Regulation FD under the Securities Exchange Act unless such Form 8-K expressly provides to the contrary.

Upon oral or written request and at no cost to the requester, we will provide to each person, including any beneficial owner, to whom a prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in this prospectus supplement but not delivered with this prospectus supplement. You may request copies of these filings, at no cost, by writing to us at Collectar Biosciences, Inc., 3301 Agriculture Drive, Madison, WI 53716, Attention: Chief Financial Officer.

This prospectus supplement and the accompanying prospectus are part of a registration statement on Form S-3 that we filed with the SEC under the Securities Act. This prospectus supplement does not contain all of the information contained in the registration statement. For further information about us and our securities, you should read the prospectus and the exhibits filed with the registration statement, as well as all prospectus supplements.

Prospectus

**Subject to completion, dated
September 2, 2015**

\$5,000,000



**Common Stock
Warrants
Units**

This prospectus provides you with a general description of securities that we may offer and sell from time to time. Each time we sell securities we will provide a prospectus supplement that will contain specific information about the terms of that sale and may add to or update the information in this prospectus. You should read this prospectus and any applicable prospectus supplement carefully before you invest in our securities.

The securities may be offered directly by us through agents designated from time to time by us or to or through underwriters or dealers. If any agents, underwriters or dealers are involved in the sale of any of the securities, their names and any applicable purchase price, fee, commission or discount arrangement between or among them will be set forth, or will be calculable from the information set forth, in the applicable prospectus supplement. See the sections entitled "About This Prospectus" and "How We Plan to Offer and Sell the Securities" for more information. No securities may be sold by us without delivery of this prospectus and the applicable prospectus supplement describing the method and terms of the offering of such securities.

Our common stock is listed on the NASDAQ Capital Market under the symbol "CLRB." On August 28, 2015, the last reported sale price of our common stock on the NASDAQ Capital Market was \$3.07 per share.

As of August 28, 2015, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$13.7 million, which was calculated based on 4,477,364 shares of outstanding common stock held by non-affiliates and on a price per share of \$3.07. Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell the shelf securities in a public primary offering with a value exceeding more than one-third of the aggregate market value of our common stock held by non-affiliates in any 12-month period so long as the aggregate market value of our outstanding common stock held by non-affiliates remains below \$75 million. During the 12 calendar months prior to and including the date of this prospectus, we have not offered or sold any securities pursuant to General Instruction I.B.6 of Form S-3.

Investing in our securities involves various risks. In our filings with the Securities and Exchange Commission, which are incorporated by reference in this prospectus, we identify and discuss risk factors that you should consider before investing in our securities.

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

The date of this prospectus is , 2015.

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ABOUT THIS PROSPECTUS

This document is called a “prospectus,” and it provides you with a general description of the securities we may offer. Each time we sell securities, we will provide a prospectus supplement containing specific information about the terms of the securities being offered. That prospectus supplement may include a discussion of any risk factors or other special considerations that apply to those securities. The prospectus supplement may also add to, update or change the information in this prospectus. If there is any inconsistency between the information in this prospectus and in a prospectus supplement, you should rely on the information in that prospectus supplement. You should read both this prospectus and any prospectus supplement together with additional information described under the heading “Where You Can Find More Information.”

We have filed a registration statement with the Securities and Exchange Commission, or the SEC, using a shelf registration process. Under this shelf registration process, we may offer and sell any combination of the securities described in this prospectus in one or more offerings.

Our SEC registration statement containing this prospectus, including exhibits, provides additional information about us and the securities offered under this prospectus. The registration statement can be read at the SEC’s web site or at the SEC’s offices. The SEC’s web site and street address are provided under the heading “Where You Can Find More Information.”

When acquiring securities, you should rely only on the information provided in this prospectus and in the related prospectus supplement, including any information incorporated by reference. No one is authorized to provide you with information different from that which is contained, or deemed to be contained, in the prospectus and related prospectus supplement. We are not offering the securities in any state where the 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 as of any date other than the date indicated on the cover page of the relevant document.

Unless otherwise stated or unless the context otherwise requires, all references to “we,” “us,” “our,” “our company” or “the Company” in this prospectus refer collectively to Collectar Biosciences, Inc., a Delaware corporation.

PROSPECTUS SUMMARY

This section contains a general summary of the information contained in this prospectus. It may not include all of the information that is important to you. You should read the entire prospectus, any accompanying prospectus supplement and the documents incorporated by reference before making an investment decision.

Collectar Biosciences, Inc.

The Company is a biopharmaceutical company developing phospholipid ether-drug conjugates (PDCs) for the treatment and diagnostic imaging of cancer. Our PDC platform is based on our cancer-targeting and delivery technology which provides selective delivery of a diverse range of oncologic payloads to cancer cells, including cancer stem cells. By linking various payloads to our proprietary phospholipid ether cancer-targeting vehicle, we believe we can create PDCs with the potential to provide highly targeted delivery of chemotherapeutic and radiotherapeutic payloads to a broad range of cancers. As a result, our PDC platform has the potential to improve the therapeutic index of payloads by minimizing delivery to healthy cells while enhancing delivery to a broad range of cancers.

The Company currently has several proprietary product candidates in development, including:

- I-131-CLR1404 is a small-molecule, broad-spectrum, cancer-targeting radiotherapeutic PDC that is designed to deliver cytotoxic (cell-killing) radiation directly and selectively to cancer cells and cancer stem cells. I-131-CLR1404 is our lead PDC therapeutic product candidate and is currently being evaluated in a phase I study in relapse/refractory multiple myeloma. This indication was selected for clinical and business related reasons including multiple myeloma's highly radiosensitive nature, clear unmet medical need in the relapse/refractory setting and orphan drug designation. Multiple myeloma is an incurable cancer of plasma cells. The Investigational New Drug (IND) application was accepted by the U.S. Food and Drug Administration (FDA) in March 2014. In December 2014, the FDA granted orphan drug designation for I-131-CLR1404 for the treatment of multiple myeloma. We initiated the phase I study in April of this year and anticipate evaluating our first cohort and initiating the second cohort in Q1 2016. The primary goal of the phase I study is to identify a phase II dose, and possibly obtain an early read on low dose efficacy.
- CLR1601-PTX and CLR1800-GEM are small-molecule, broad-spectrum, cancer-targeting therapeutic PDCs designed to deliver their respective chemotherapeutic payloads, paclitaxel and gemcitabine, selectively and directly to cancer cells and cancer stem cells. Both PDCs are pre-clinical, and we are developing *in vivo* and *in vitro* data to demonstrate stability and efficacy.
- I-124-CLR1404 is a small-molecule, broad-spectrum, cancer-targeting positron emission tomography (PET) imaging PDC that we believe has the potential to be the first of its kind for the selective detection of tumors and metastases in a broad range of cancers. I-124-CLR1404 has been used for PET/CT imaging in a broad array of tumor types via both Company and investigator-sponsored clinical trials, and we are in the process of evaluating the data from those studies. In April 2014, the FDA granted I-124-CLR1404 orphan status as a diagnostic for the management of glioma.
- CLR1502 is a small-molecule, broad-spectrum cancer-targeting, NIR-fluorophore optical imaging PDC for intraoperative tumor and tumor margin illumination. This past June, after review of the Company's IND application, the FDA determined that CLR1502 will be evaluated as a combination product and assigned to the Center for Devices and Radiological Health (CDRH). As a result of this classification, the FDA has advised Collectar that it will need to submit a new investigational application for the combination product prior to initiating its phase I study in breast cancer surgery. As a result, Collectar is identifying the optimal clinical development pathway. Based on the Company's assessment, the product will be similarly treated post marketing approval regardless of regulatory pathway.

We believe our PDC platform has potential to provide targeted delivery of oncologic payloads, as exemplified by the product candidates listed above, that may result in improvements upon current standard of care (SOC) for the treatment, diagnosis and imaging of a broad range of human cancers.

Our headquarters and manufacturing operation is located at 3301 Agriculture Drive, Madison, Wisconsin 53716. We maintain a website at www.collectar.com. The information included or referred to on, or accessible through, our website does not constitute part of, and is not incorporated by reference into, this prospectus.

The Securities That May Be Offered

The descriptions of the securities contained in this prospectus, together with an applicable prospectus supplement, summarize all the material terms and provisions of the various types of securities that may be offered under this prospectus and any applicable prospectus supplement. We will describe in the applicable prospectus supplement relating to any securities the particular terms of the securities offered by that prospectus supplement. If we so indicate in the applicable prospectus supplement, the terms of the securities may differ from the terms we have summarized below. We may also include in the prospectus supplement information, where applicable, about material United States federal income tax considerations relating to the securities, and the securities exchange or market, if any, on which the securities will be listed.

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

- common stock;
- warrants to purchase common stock; or
- units consisting of a combination of the foregoing.

The aggregate offering price of all securities that we may sell under this prospectus and applicable prospectus supplements will not exceed \$5,000,000. In no event, however, will we sell securities in a primary offering pursuant to General Instruction I.B.6 of Form S-3 with a value exceeding more than one-third of our public float in any 12-month period so long as our public float remains below \$75 million.

Risks Affecting Us

Our business is subject to a number of risks, which are highlighted in the section entitled “Risk Factors” immediately following this summary and in the prospectus supplement and the documents incorporated by reference.

RISK FACTORS

Prior to making an investment decision with respect to the securities that we may offer, prospective investors should carefully consider, in light of their particular investment objectives and financial circumstances, the specific factors set forth under the caption “Risk Factors” in the applicable prospectus supplement pertaining thereto and in our most recent annual report on Form 10-K/A and any subsequent quarterly reports on Form 10-Q filed with the SEC, as well as any amendments thereto reflected in subsequent filings with the SEC, and in any of our other filings with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Securities Exchange Act of 1934, as amended, or the Exchange Act, incorporated by reference into this prospectus and the applicable prospectus supplement. For more information, see “Where You Can Find More Information” and “Incorporation of Certain Information by Reference.”

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference in this prospectus, contain forward-looking statements. You should carefully consider the various risk factors described above that are incorporated by reference into this prospectus from our SEC filings, which risk factors may cause our actual results to differ materially from those indicated by such forward-looking statements. You should not place undue reliance on our forward-looking statements.

HOW WE INTEND TO USE THE PROCEEDS

Unless stated differently in a prospectus supplement, we will use the net proceeds from the sale of the securities that we may offer with this prospectus and any accompanying prospectus supplement to fund research and development activities for our current product candidates and for general corporate purposes. General corporate purposes may include the payment of general and administrative expenses, capital expenditures, working capital, prosecution and maintenance of our intellectual property and any other purposes that we may specify in any prospectus supplement. We may invest the net proceeds temporarily until we use them for their stated purpose.

DESCRIPTION OF COMMON STOCK

The following summary description of our common stock is based on the provisions of our Second Amended and Restated Certificate of Incorporation, as amended, which we refer to as our certificate of incorporation or charter, our by-laws, and the applicable provisions of the Delaware General Corporation Law, which we refer to as the DGCL. This description may not contain all of the information that is important to you and is subject to, and is qualified in its entirety by reference to our certificate of incorporation, our by-laws and the applicable provisions of the DGCL. For information on how to obtain copies of our certificate of incorporation and by-laws, see "Where You Can Find More Information."

Authorized and Outstanding Capital Stock

Our authorized capital stock consists of 40,000,000 shares of common stock, \$0.00001 par value per share and 7,000 shares of preferred stock, \$0.00001 par value per share. Our certificate of incorporation authorizes us to issue shares of our preferred stock from time to time in one or more series without stockholder approval, each such series to have rights and preferences, including voting rights, dividend rights, conversion rights, redemption privileges and liquidation preferences as our board of directors may determine. The rights of the holders of common stock will be subject to, and may be adversely affected by, the rights of holders of any preferred stock that we may issue in the future. The issuance of preferred stock, while providing desirable flexibility in connection with possible acquisitions and other corporate purposes, could have the effect of making it more difficult for others to acquire, or of discouraging others from attempting to acquire, a majority of our outstanding voting stock. We currently have no plans to issue any shares of preferred stock.

As of August 28, 2015, we had 7,564,133 shares of common stock outstanding and no shares of preferred stock outstanding. All outstanding shares of our common stock are duly authorized, validly issued, fully paid and nonassessable.

Reverse Stock Split and Recapitalization

At our annual meeting of stockholders held on May 22, 2014, our stockholders approved an amendment to our certificate of incorporation to effect a reverse split of our common stock at a ratio between 1:10 to 1:20 in order to satisfy requirements for the listing of our common stock on the NASDAQ Capital Market. In addition, the proposal approved by the stockholders provided that if the reverse split was effected, the number of shares of Common Stock that the Corporation is authorized to issue would be reduced from 150,000,000 to the greater of (A) 20,000,000 and (B) a number of shares equal to three (3) times the sum of (i) the number of all shares of our common stock outstanding and (ii) the number of shares of common stock issuable upon exercise or conversion of all outstanding options, warrants and convertible debt. Our stockholders further authorized the board of directors to determine the ratio at which the reverse split would be effected and the corresponding reduction in authorized shares of common stock by filing an appropriate amendment to our certificate of incorporation. Our board of directors authorized the ratio of the Reverse Split and corresponding reduction in authorized shares on June 6, 2014 and effective at the close of business on June 13, 2014, we amended our Second Amended and Restated Certificate of Incorporation to effect the Listing Reverse Split and reduce the number of authorized shares of our common stock to 20,000,000 from 150,000,000. All share and per share numbers included in this prospectus give effect to the Listing Reverse Split. At our stockholders' meeting, held on June 9, 2015, our stockholders approved a further amendment to our certificate of incorporation to increase the authorized number of shares of common stock from 20,000,000 to 40,000,000.

Common Stock

Voting. Holders of our common stock are entitled to one vote per share held of record on all matters to be voted upon by our stockholders. Our common stock does not have cumulative voting rights. Persons who hold a majority of the outstanding common stock entitled to vote on the election of directors can elect all of the directors who are eligible for election.

Dividends. Subject to preferences that may be applicable to the holders of any outstanding shares of our preferred stock, the holders of our common stock are entitled to receive such lawful dividends as may be declared by our board of directors.

Liquidation and Dissolution. In the event of our liquidation, dissolution or winding up, and subject to the rights of the holders of any outstanding shares of our preferred stock, the holders of shares of our common stock will be entitled to receive pro rata all of our remaining assets available for distribution to our stockholders.

Other rights and Restrictions. Our charter prohibits us from granting preemptive rights to any of our stockholders.

Anti-Takeover Effect of Certain Charter and By-Law Provisions

Provisions of our charter and our by-laws could make it more difficult to acquire us by means of a merger, tender offer, proxy contest, open market purchases, removal of incumbent directors and otherwise. These provisions, which are summarized below, are expected to discourage types of coercive takeover practices and inadequate takeover bids and to encourage persons seeking to acquire control of us to first negotiate with us. We believe that the benefits of increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging takeover or acquisition proposals because negotiation of these proposals could result in an improvement of their terms.

Authorized but Unissued Stock. We have shares of common stock and preferred stock available for future issuance, in some cases, without stockholder approval. We may issue these additional shares for a variety of corporate purposes, including public offerings to raise additional capital, corporate acquisitions, stock dividends on our capital stock or equity compensation plans. The existence of unissued and unreserved common stock and preferred stock may enable our board of directors to issue shares to persons friendly to current management or to issue preferred stock with terms that could render more difficult or discourage a third-party attempt to obtain control of us, thereby protecting the continuity of our management. In addition, if we issue preferred stock, the issuance 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.

Amendments to By-laws. Our certificate of incorporation and by-laws authorize the Board to amend, repeal, alter or rescind the by-laws at any time without stockholder approval. Allowing the Board to amend our by-laws without stockholder approval enhances Board control over our by-laws.

Classification of Board; Removal of Directors; Vacancies. Our certificate of incorporation provide for the division of the Board into three classes as nearly equal in size as possible with staggered three-year terms; that directors may be removed only for cause by the affirmative vote of the holders of two-thirds of our shares of capital stock entitled to vote; and that any vacancy on the Board, however occurring, including a vacancy resulting from an enlargement of the board, may be filled only by the vote of a majority of the directors then in office. The limitations on the removal of directors and the filling of vacancies could have the effect of making it more difficult for a third party to acquire, or of discouraging a third party from acquiring, control of us. Our certificate of incorporation requires the affirmative vote of the holders of at least 75% of our shares of capital stock issued and outstanding and entitled to vote to amend or repeal any of these provisions.

Notice Periods for Stockholder Meetings. Our by-laws provide that for business to be brought by a stockholder before an annual meeting of stockholders, the stockholder must give written notice to the corporation not less than 90 nor more than 120 days prior to the one year anniversary of the date of the annual meeting of stockholders of the previous year; provided, however, that in the event that the annual meeting of stockholders is called for a date that is not within 30 days before or after such anniversary date, notice by the stockholder must be received not later than the close of business on the tenth day following the day on which the corporation's notice of the date of the meeting is first given or made to the stockholders or disclosed to the general public, whichever occurs first.

Stockholder Action; Special Meetings. Our certificate of incorporation provides that stockholder action may not be taken by written action in lieu of a meeting and provides special meetings of the stockholders may only be called by our president or by our Board. These provisions could have the effect of delaying until the next stockholders' meeting stockholder actions that are favored by the holders of a majority of our outstanding voting securities. These provisions may also discourage another person or entity from making a tender offer for our common stock, because that person or entity, even if it acquired a majority of our outstanding voting securities, would be able to take action as a stockholder only at a duly called stockholders' meeting, and not by written consent. Our certificate of incorporation requires the affirmative vote of the holders of at least 75% of our shares of capital stock issued and outstanding and entitled to vote to amend or repeal the provisions relating to prohibition on action by written consent and the calling of a special meeting of stockholders.

Nominations. Our by-laws provide that nominations for election of directors may be made only by (i) the Board or a committee appointed by the Board; or (ii) a stockholder entitled to vote on director election, if the stockholder provides notice to the Secretary of the Corporation presented not less than 90 days nor more than 120 days prior to the anniversary of the last annual meeting (subject to the limited exceptions set forth in the bylaws). These provisions may deter takeovers by requiring that any stockholder wishing to conduct a proxy contest have its position solidified well in advance of the meeting at which directors are to be elected and by providing the incumbent Board with sufficient notice to allow them to put an election strategy in place.

NASDAQ Capital Market Listing

Our common stock is listed for trading and quotation on the NASDAQ Capital Market under the trading symbol “CLRB.” Certain warrants to purchase shares of our common stock expiring on August 20, 2019 are also listed on the NASDAQ Capital market under the trading symbol “CLRBW.” On August 14, 2015, the Company received notice from Nasdaq which indicated that under Nasdaq Listing Rule 5550(b)(1), the Company is required to maintain a minimum of \$2,500,000 in stockholders’ equity for continued listing. In the Company’s Form 10-Q for the period ended June 30, 2015, we reported stockholders’ equity was \$2,373,371. The Company has until September 28, 2015 to submit a plan to Nasdaq to regain compliance, which it intends to provide.

Transfer Agent and Registrar

The transfer agent and registrar for our common stock is American Stock Transfer and Trust Company.

DESCRIPTION OF WARRANTS

The following summary describes generally the terms of warrants to purchase shares of our common stock that we may offer from time to time in one or more series. The specific terms of a series of warrants will be described in the applicable prospectus supplement relating to that series of warrants. Each series of warrants will be issued under a separate warrant agreement between us and a warrant agent specified in the related prospectus supplement. The warrant agent will act solely as our agent in connection with the warrants of a series and will not assume any obligation or relationship of agency or trust for or with holders or beneficial owners of the warrants.

The following description of the warrants may not contain all of the information that is important to you and is subject to, and qualified in its entirety by reference to, the underlying warrant agreement, which we will file with the SEC at or prior to the time of the sale of the warrants. You should refer to, and read this summary together with, the form of warrant agreement and the applicable prospectus supplement for a full understanding of the specific terms of any warrant.

The applicable prospectus supplement will describe the terms of any warrants, including the following:

- the title of the warrants;
- the aggregate number of the warrants;
- the price or prices at which the warrants will be issued and sold;
- the number of shares of common stock purchasable upon exercise of the warrants;
- the price at which the common stock purchasable upon exercise of the warrants may be purchased;
- the date on which the right to exercise the warrants shall commence and the date on which that right will expire;
- whether the warrants will be issued in registered form or bearer form;
- if applicable, the minimum or maximum amount of the warrants which may be exercised at any one time;
- if applicable, the date on and after which the warrants and the related underlying securities will be separately transferable;
- information with respect to book-entry procedures, if any;
- if applicable, a summary of the United States federal income tax considerations; and
- any other terms of the warrants, including terms, procedures and limitations relating to the exchange and exercise of the warrants.

Prior to the exercise of their warrants, holders of warrants will not have any of the rights of holders of the respective underlying securities purchasable upon exercise of the warrants.

DESCRIPTION OF UNITS

The following summary describes generally the terms of the units that we may offer under this prospectus. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, each unit will entitle the holder thereof to the rights and obligations of a holder of each security included in such unit. The specific terms of a series of units will be described in the applicable prospectus supplement relating to that series of units. Units will be issued pursuant to the terms of a unit agreement, which may provide that the securities included in the unit may not be held or transferred separately at any time or at any time before a specified date.

The following description of the units may not contain all of the information that is important to you and is subject to, and qualified in its entirety by reference to, the underlying unit agreement, which we will file with the SEC at or prior to the time of the sale of the units. You should refer to, and read this summary together with, the unit agreement and the applicable prospectus supplement for a full understanding of the specific terms of any series of units.

The applicable prospectus supplement will describe the terms of any units, including the following:

- the designation and terms of the units and the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provision for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units; and
- whether the units will be issued in fully registered or global form.

HOW WE PLAN TO OFFER AND SELL THE SECURITIES

We may sell the securities in any one or more of the following ways:

- directly to investors;
- to investors through agents;
- to dealers;
- through a special offering, an exchange distribution or a secondary distribution in accordance with applicable Nasdaq Capital Market or other stock exchange rules;
- through underwriting syndicates led by one or more managing underwriters; and
- through one or more underwriters acting alone.

Any underwritten offering may be on a best efforts or a firm commitment basis. We may also make direct sales through subscription rights distributed to our stockholders on a pro rata basis, which may or may not be transferable. In any distribution of subscription rights to stockholders, if all of the underlying securities are not subscribed for, we may then sell the unsubscribed securities directly to third parties or may engage the services of one or more underwriters, dealers or agents, including standby underwriters, to sell the unsubscribed securities to third parties.

The distribution of the securities may be effected from time to time in one or more transactions:

- at a fixed price or prices, which may be changed;
- at market prices prevailing at the time of sale;
- at prices related to such prevailing market prices; or
- at negotiated prices.

Any of the prices may represent a discount from the prevailing market prices.

In the sale of the securities, underwriters or agents may receive compensation from us or from purchasers of the securities, for whom they may act as agents, in the form of discounts, concessions or commissions. 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 and/or commissions from the purchasers for whom they may act as agents. Underwriters, dealers and agents that participate in the distribution of the securities may be deemed to be underwriters under the Securities Act of 1933, as amended, or the Securities Act, and any discounts or commissions they receive from us and any profit on the resale of securities they realize may be deemed to be underwriting discounts and commissions under the Securities Act. The applicable prospectus supplement will, where applicable:

- identify any such underwriter or agent;
- describe any compensation in the form of discounts, concessions, commissions or otherwise received from us by each such underwriter or agent and in the aggregate to all underwriters and agents;
- identify the amounts underwritten;
- identify the nature of the underwriter's obligation to take the securities;
- and any other material terms of the offering, including any over-allotment option.

Common stock sold by us pursuant to a prospectus supplement will be listed on the Nasdaq Capital Market, subject to the Nasdaq Capital Market's approval of the listing of the additional shares. We may elect to list other securities on an exchange, but we are not obligated to do so. It is possible that one or more underwriters may make a market in a series of securities, but such underwriters will not be obligated to do so and may discontinue any market making at any time without notice. Therefore, no assurance can be given as to the liquidity of, or the trading market for, any series of securities.

Until the distribution of the securities is completed, rules of the Securities and Exchange Commission may limit the ability of any underwriters and selling group members to bid for and purchase the securities. As an exception to these rules, underwriters are permitted to engage in some transactions that stabilize the price of the securities. Such transactions consist of bids or purchases for the purpose of pegging, fixing or maintaining the price of the securities.

If any underwriters create a short position in the securities in an offering in which they sell more securities than are set forth on the cover page of the applicable prospectus supplement, the underwriters may reduce that short position by purchasing the securities in the open market.

The lead underwriters may also impose a penalty bid on other underwriters and selling group members participating in an offering. This means that if the lead underwriters purchase securities in the open market to reduce the underwriters' short position or to stabilize the price of the securities, they may reclaim the amount of any selling concession from the underwriters and selling group members who sold those securities as part of the offering.

In general, purchases of a security for the purpose of stabilization or to reduce a short position could cause the price of the security to be higher than it might be in the absence of such purchases. The imposition of a penalty bid might also have an effect on the price of a security to the extent that it discourages resales of the security before the distribution is completed.

We do not make any representation or prediction as to the direction or magnitude of any effect that the transactions described above might have on the price of the securities. In addition, we do not make any representation that underwriters will engage in such transactions or that such transactions, once commenced, will not be discontinued without notice.

Under agreements into which we may enter, underwriters, dealers and agents who participate in the distribution of the securities may be entitled to indemnification by us against some liabilities, including liabilities under the Securities Act, or to contribution from us with respect to such liabilities.

Underwriters, dealers and agents may engage in transactions with us, perform services for us or be our customers in the ordinary course of business.

If indicated in the applicable prospectus supplement, we will authorize underwriters or other persons acting as our agents to solicit offers by particular institutions to purchase securities from us at the public offering price set forth in such prospectus supplement pursuant to delayed delivery contracts providing for payment and delivery on the date or dates stated in such prospectus supplement. Each delayed delivery contract will be for an amount no less than, and the aggregate principal amounts of securities sold under delayed delivery contracts shall be not less nor more than, the respective amounts stated in the applicable prospectus supplement. Institutions with which such contracts, when authorized, may be made include commercial and savings banks, insurance companies, pension funds, investment companies, educational and charitable institutions and others, but will in all cases be subject to our approval. The obligations of any purchaser under any such contract will be subject to the conditions that (a) the purchase of the securities shall not at the time of delivery be prohibited under the laws of any jurisdiction in the United States to which the purchaser is subject, and (b) if the securities are being sold to underwriters, we shall have sold to the underwriters the total principal amount of the securities less the principal amount thereof covered by the contracts. The underwriters and such other agents will not have any responsibility in respect of the validity or performance of such contracts.

To comply with applicable state securities laws, the securities offered by this prospectus will be sold, if necessary, in such jurisdictions only through registered or licensed brokers or dealers. In addition, securities may not be sold in some states unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The Securities and Exchange Commission allows us to incorporate by reference information into this prospectus. This means that we can disclose important information to you by referring you to another document filed separately with the SEC. The information incorporated by reference is considered to be a part of this prospectus, except for any information that is superseded by information that is included directly in this prospectus or incorporated by reference subsequent to the date of this prospectus. We do not incorporate the contents of our website into this prospectus. We incorporate by reference the filed documents listed below, except as superseded, supplemented or modified by this prospectus, and any future filings we will make with the SEC under Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act until all of the shelf securities are sold:

- our Annual Report on Form 10-K/A for the fiscal year ended December 31, 2014 filed on May 20, 2015;
- our Quarterly Report on Form 10-Q for the quarter ended March 31, 2015 filed on May 20, 2015;
- our Quarterly Report on Form 10-Q for the quarter ended June 30, 2015 filed on August 12, 2015;
- our Current Report on Form 8-K for the event date of June 9, 2015 filed on June 11, 2015;
- our Current Report on Form 8-K for the event date of June 15, 2015 filed on June 16, 2015;
- our Current Report on Form 8-K for the event date of June 15, 2015 filed on June 19, 2015;
- our Current Report on Form 8-K for the event date of July 1, 2015 filed on July 8, 2015;
- our Current Report on Form 8-K for the event date of July 28, 2015 filed on July 31, 2015;
- our Current Report on Form 8-K for the event date of August 14, 2015 filed on August 19, 2015; and
- the description of our securities contained in our Registration Statement on Form 8-A filed on August 14, 2014, including any amendment or report filed for the purpose of updating such description.

In addition, we incorporate by reference all documents that we may file with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act on or after (1) the date of the initial registration statement and prior to the effectiveness of the registration statement and (2) the date of effectiveness of the registration statement until the date on which this registration statement has been withdrawn. These documents will become a part of this prospectus from the date that the documents are filed with the SEC. These documents include periodic reports, such as annual reports on Form 10-K, quarterly reports on Form 10-Q and current reports on Form 8-K, excluding any information filed or furnished pursuant to Item 2.02, Item 7.01 or Item 9.01 and excluding any information furnished pursuant to Item 8.01 of any current report on Form 8-K solely for purposes of satisfying the requirements of Regulation FD under the Exchange Act, unless such Form 8-K expressly provides to the contrary.

Upon oral or written request and at no cost to the requester, we will provide to each person, including any beneficial owner, to whom a prospectus is delivered, a copy of any or all of the information that has been incorporated by reference in this prospectus but not delivered with this prospectus. You may request copies of these filings, at no cost, by writing to us at Collectar Biosciences, Inc., 3301 Agriculture Drive, Madison, WI 53716, Attention: Chief Financial Officer.

This prospectus is part of a registration statement on Form S-3 that we filed with the SEC under the Securities Act. This prospectus does not contain all of the information contained in the registration statement. For further information about us and our securities, you should read the prospectus and the exhibits filed with the registration statement, as well as all prospectus supplements.

WHERE YOU CAN FIND MORE INFORMATION

We are a reporting company and file annual, quarterly and special reports, and other information with the Securities and Exchange Commission. Copies of the reports and other information may be read and copied at the SEC's Public Reference Room at 100 F Street NE, Washington, D.C. 20549. You can request copies of such documents by writing to the SEC and paying a fee for the copying cost. You may obtain information on the operation of the Public Reference Room by calling the SEC at 1-800-SEC-0330. The SEC maintains a web site at <http://www.sec.gov> that contains reports, proxy and information statements and other information regarding registrants that file electronically with the SEC.

EXPERTS

The audited financial statements incorporated by reference in this prospectus and elsewhere in the registration statement have been so incorporated by reference in reliance upon the report of Grant Thornton LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing.

LEGAL MATTERS

The legality of the securities offered hereby will be passed upon for us by Foley Hoag LLP of Boston, Massachusetts.