



**1,954,388 Shares of Common Stock, and
41,041,294 Shares of Series B Preferred Stock convertible into an aggregate of 2,190,330 Shares of Common Stock**

We are offering an aggregate of 1,954,388 shares of our common stock. In a concurrent private placement, we are selling to the purchasers of shares of our common stock in this offering, Series D warrants to purchase an aggregate of 1,465,791 shares of our common stock (“Warrant Shares”) at an exercise price of \$1.78 per share. The offering and sale of Series D warrants and the shares of our common stock issuable upon the exercise of the Series D 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.

We are also offering to those purchasers, whose purchase of shares of common stock in this offering would result in the purchaser, together with its affiliates and certain related parties, beneficially owning more than 4.99% of our outstanding common stock following the consummation of this offering, the opportunity to purchase, if they so choose, in lieu of the shares of our common stock that would result in ownership in excess of 4.99%, 41,041,294 shares of Series B Convertible Preferred Stock (“Series B Preferred Stock”), convertible into an aggregate of 2,190,330 shares of common stock at any time at the holder’s option into a number of shares of common stock equal to \$100,000 divided by \$1.87375 (the “Conversion Price”), at a public offering price of \$100,000 per share of Series B Preferred Stock. In the private placement transaction, we are selling to the purchasers of shares of our Series B Preferred Stock in this offering, Series D warrants to purchase an aggregate of 1,642,747 shares of our common stock. Each share of Series B Preferred Stock entitles its holder to receive 53,369 shares of common stock upon conversion.

Our common stock is listed on the Nasdaq Capital Market under the symbol “CLRB.” On October 10, 2017, the last reported sale price of our common stock on the Nasdaq Capital Market was \$1.79 per share.

As of September 14, 2017, the aggregate market value of our outstanding common stock held by non-affiliates was approximately \$23.9 million, which was calculated based on 12,788,385 shares of outstanding common stock held by non-affiliates and on a price per share of \$1.87, which was the closing price of our common stock on the Nasdaq Capital Market on that day. As of the date hereof, we have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus supplement.

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-6 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 is not required to sell any specific number or dollar amount of securities, but 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 of Common Stock and Series D Warrant⁽¹⁾	Per Share of Series B Preferred Stock and Series D Warrant⁽²⁾	Total
Public offering price	\$ 1.87375	\$ 100,000	\$ 7,766,164.00
Placement agent fees ⁽³⁾	\$ 0.1405	\$ 7,500	\$ 582,462.30
Proceeds, before expenses, to Collectar Biosciences, Inc.	\$ 1.73325	\$ 92,500	\$ 7,183,701.70

(1) Consists of fixed combinations comprised of (i) one share of common stock sold in this offering and (ii) 0.75 shares of common stock issuable upon exercise of warrants issued in a private placement. See “Private Placement Transaction”.

(2) Consists of fixed combinations comprised of (i) one share of Series B Preferred Stock sold in this offering convertible into approximately 53,368 shares of common stock and (ii) approximately 40,026 shares of common stock issuable upon exercise of warrants issued in a private placement. See “Private Placement Transaction”.

(3) In addition, we have agreed to pay the placement agent’s actual out-of-pocket expenses up to \$20,000 in the aggregate. See “Private Placement Transaction” and “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 12, 2017.

LADENBURG THALMANN

The date of this prospectus supplement is October 11, 2017.

TABLE OF CONTENTS

Prospectus Supplement

	<u>Page</u>
<u>ABOUT THIS PROSPECTUS SUPPLEMENT</u>	<u>S-1</u>
<u>CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>S-2</u>
<u>SUMMARY</u>	<u>S-3</u>
<u>THE OFFERING</u>	<u>S-5</u>
<u>RISK FACTORS</u>	<u>S-6</u>
<u>USE OF PROCEEDS</u>	<u>S-7</u>
<u>DILUTION</u>	<u>S-7</u>
<u>DESCRIPTION OF COMMON STOCK</u>	<u>S-8</u>
<u>DESCRIPTION OF PREFERRED STOCK</u>	<u>S-8</u>
<u>PRIVATE PLACEMENT TRANSACTION</u>	<u>S-9</u>
<u>PLAN OF DISTRIBUTION</u>	<u>S-10</u>
<u>EXPERTS</u>	<u>S-10</u>
<u>LEGAL MATTERS</u>	<u>S-10</u>
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	<u>S-11</u>
<u>INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</u>	<u>S-11</u>

Prospectus

	<u>Page</u>
<u>RISK FACTORS</u>	<u>7</u>
<u>CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>7</u>
<u>USE OF PROCEEDS</u>	<u>7</u>
<u>DESCRIPTION OF SECURITIES WE MAY OFFER</u>	<u>7</u>
<u>DESCRIPTION OF CAPITAL STOCK</u>	<u>8</u>
<u>DESCRIPTION OF WARRANTS</u>	<u>10</u>
<u>DESCRIPTION OF UNITS</u>	<u>11</u>
<u>DESCRIPTION OF SUBSCRIPTION RIGHTS</u>	<u>11</u>
<u>PLAN OF DISTRIBUTION</u>	<u>12</u>
<u>LEGAL MATTERS</u>	<u>14</u>
<u>EXPERTS</u>	<u>14</u>
<u>WHERE YOU CAN FIND MORE INFORMATION</u>	<u>14</u>
<u>INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</u>	<u>14</u>

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 or Series B Preferred 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 Collectar Biosciences, Inc., a Delaware corporation.

Our Internet address is www.collectar.com. There we make available free of charge, on or through the investor relations section of our website, annual reports on Form 10-K, quarterly reports on Form 10-Q, current reports on Form 8-K and amendments to those reports filed pursuant to Section 13(a) or 15(d) of the Exchange Act as soon as reasonably practicable after we electronically file such material with the SEC. The information found on our website is not part of this prospectus supplement or the accompanying prospectus.

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus supplement and the prospectus and the documents incorporated by reference herein contain, or will contain, “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934 (the “Exchange Act”), which include statements that express plans, anticipation, intent, contingency, goals, targets or future development and/or otherwise are not statements of historical fact. These statements are based on our management’s current beliefs, expectations and assumptions about future events, conditions and results and on information currently available to us. Discussions containing these forward-looking statements may be found, among other places, in the Sections entitled “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” incorporated by reference from our most recent Annual Report on Form 10-K and in our Quarterly Reports on Form 10-Q, as well as any amendments thereto, filed with the SEC.

In some cases, you can identify forward-looking statements by terminology, such as “expects,” “anticipates,” “intends,” “estimates,” “plans,” “believes,” “seeks,” “may,” “should”, “could” or the negative of such terms or other similar expressions, but these are not the exclusive means of identifying forward-looking statements. Forward-looking statements involve estimates, assumptions and uncertainties that could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this prospectus. Such statements are subject to various risks, uncertainties and assumptions that could cause actual results to differ materially from those anticipated or implied in our forward-looking statements due to a number of factors including, but not limited to, those set forth above under the section entitled “Risk Factors” in this prospectus and any accompanying prospectus supplement. Given these risks, uncertainties and other factors, many of which are beyond our control, you should not place undue reliance on these forward-looking statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to revise any forward-looking statements to reflect events or developments occurring after the date of this prospectus, even if new information becomes available in the future.

SUMMARY

Business Overview

We are a biopharmaceutical company focused on the discovery, development and commercialization of drugs for the treatment of cancer. We leverage our proprietary phospholipid drug conjugateTM (PDCsTM) platform to specifically target treatments to cancer cells. The PDCTM platform possesses the potential for the discovery and development of the next generation of cancer-targeting agents. Our lead product candidate, CLR 131, is a PDC providing targeted delivery of a cytotoxic (cell-killing) radioisotope iodine 131. Our pipeline also includes a series of pre-clinical chemotherapeutic PDC programs. We believe our proprietary PDC platform can provide the next-generation of targeted cancer treatments that result in greater efficacy and less off-target effects reducing patient adverse events.

Our core strategy is to develop new targeted treatments for cancer patients that leverage our PDC cancer-targeting delivery platform. We employ a drug discovery and development approach that allows us to efficiently design, research and advance drug candidates. Our iterative process allows us to rapidly and systematically produce multiple generations of incrementally improved targeted drug candidates. By combining this approach with our PDC platform, we plan to develop proprietary compounds independently and in collaborations with other companies. Through strategic acquisitions and research collaborations, our strategy is to seek to generate near-term capital, supplement internal resources, gain access to novel molecules or payloads, accelerate product candidate development and broaden our product pipeline.

Our PDC platform provides selective delivery of a diverse range of oncologic payloads to cancerous cells, whether a hematologic cancer and solid tumor, the primary tumor, or a metastatic tumor and cancer stem cells. Our PDC platform takes advantage of a metabolic pathway utilized by all tumor cell types in all stages of the tumor “cycle.” This allows the PDC molecules to gain access to the intracellular compartment of the tumor cells and for the PDCs to continue to accumulate over time, which enhances drug efficacy. The PDC platform’s mechanism of entry does not rely upon specific cell surface epitopes or antigens as are required by other targeted delivery platforms. Specific cell surface epitopes are limited in number on the cell surface, undergo internalization and cycling upon binding and are not present on all tumor cells of a particular cancer type. This means a subpopulation of tumor cells will always remain. In addition to the benefits provided by the mechanism of entry, PDCs offer the potential advantage of having the ability to be conjugated to molecules in numerous ways, thereby increasing the types of molecules selectively delivered via the PDC.

The PDC platform features include the capacity to link with almost any molecule, provide a significant increase in targeted oncologic payload delivery and the ability to target all tumor cells. As a result, we believe that we can generate PDCs to treat a broad range of cancers with the potential to improve the therapeutic index of oncologic drug payloads, enhance or maintain efficacy while reducing adverse events by minimizing drug delivery to healthy cells, and increasing delivery to cancerous cells and cancer stem cells. A description of our PDC product candidates follows:

- CLR 131 is a small-molecule, cancer-targeting radiotherapeutic PDC designed to deliver cytotoxic radiation directly and selectively to cancer cells and cancer stem cells. CLR 131 is our lead therapeutic PDC product candidate and is currently being evaluated in both Phase 1 and Phase 2 clinical studies. 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 CLR 131 for the treatment of multiple myeloma and the Phase 1 study was initiated in April 2015. This clinical study is a standard three-by-three dose escalation safety study in patients with relapse or refractory multiple myeloma. Multiple myeloma is an incurable cancer of the plasma cells and is the second most common form of hematologic cancers. This cancer type was selected for clinical, regulatory and commercial rationales, including multiple myeloma’s highly radiosensitive nature, and continued unmet medical need in the relapse/refractory setting. The primary goal of the Phase 1 study is to assess the compound’s safety and tolerability in patients with relapsed or refractory multiple myeloma. Secondary objectives include establishment of a recommended Phase 2 dose, both with and without dexamethasone, as well as an evaluation of therapeutic activity by assessing surrogate efficacy markers which include M protein, Free Light Chain (FLC), Progression Free Survival (PFS) and Overall Survival (OS),

In September 2017, Cohort 4 results were announced. These results showed that a single 30 minute infusion of 31.25mCi/m2 of CLR 131 was safe and well tolerated by the three patients in the cohort. We are also monitoring signals of efficacy, including surrogate markers M protein and free light chain (FLC). The International Myeloma Working Group (IMWG) defines a partial response (PR) as a greater than or equal to 50 percent decrease in FLC levels (for patients in whom M protein is unmeasurable) or 50 percent decrease in M protein. Additionally, all three patients in the cohort experienced clinical benefit with two patients achieving stable disease and one patient achieving a PR. One patient experiencing stable disease attained a 44 percent reduction in M protein. The patient experiencing a partial response had an 82 percent reduction in FLC. This patient did not produce M protein, received seven prior lines of treatment including radiation, stem cell transplantation and multiple combination treatments including one with daratumumab that was not tolerated. As of July 2017, patients in Cohort 1 who received a single 12.5mCi/m2 dose experienced a median OS of 22.5 months with all patients remaining alive. Median OS for Cohorts 2 and 3 also continue to progress with patients experiencing OS of 13.2 months and 6.7 months, respectively as of July 2017. Based upon these data, we elected to initiate a Phase 2 clinical study using Cohort 3’s dose of 25.0 mCi/m2 with the option to increase the dose based on our ongoing Phase 1 safety and efficacy signals.

In August, 2016 the University of Wisconsin Carbone Cancer Center (UWCCC) was awarded a five year Specialized Programs of Research Excellence (SPORE) grant from the National Cancer Institute to improve treatments and outcomes for head and neck cancer (HNC) patients. HNC is the sixth most common cancer across the world with approximately 56,000 new patients diagnosed every year in the United States. As a key component of this grant, the UWCCC researchers will test CLR 131 in various animal HNC models as well as initiating the first human clinical trial combining CLR 131 and external beam radiation in patients with recurrent HNC. The UWCCC is currently anticipated to initiate this clinical trial in 2019.

In July 2016, we were awarded a \$2,000,000 National Cancer Institute Fast-Track Small Business Innovation Research (SBIR) grant to further advance CLR 131. The funds are supporting the Phase 2 study initiated in March 2017 to further define the clinical benefits of CLR 131 in multiple myeloma and other niche hematologic malignancies with high unmet clinical need. These niche hematologic malignancies include Chronic Lymphocytic Leukemia, Small Lymphocytic Lymphoma, Marginal Zone Lymphoma, Lymphoplasmacytic Lymphoma, and Diffuse Large B-Cell Lymphoma. The study will be conducted in approximately 10-15 top cancer centers in the United States in patients with orphan-designated relapse or refractory hematologic cancers. The study's primary endpoint is clinical benefit response (CBR), with additional endpoints of progression free survival (PFS), median OS and other markers of efficacy following a single 25.0 mCi/m² dose of CLR 131, with the option for a second 25.0 mCi/m² dose approximately 75-180 days later.

- CLR 1700 Series is an internally developed PDC program leveraging a payload designed to treat a broad range of hematologic cancers. The payload provides further specificity by targeting a pathway within hematologic cancers that is significantly upregulated in comparison to normal tissue. We believe that this additional level of targeting will allow us to provide a new drug candidate that has the ability to significantly improve patient outcomes. Leveraging our iterative discovery and screening process, we have been able to accelerate the development of this program.
- CLR 1800 Series is a collaborative PDC program with Pierre Fabre that we entered into in December 2015 and extended in October 2017. Pierre Fabre is the third largest French pharmaceutical company with an extensive oncology research and development infrastructure. The objective of the research collaboration is to co-design a library of PDCs employing Pierre Fabre's chemotherapeutics in combination with our proprietary cancer-targeting delivery vehicle. The newly developed PDCs may provide enhanced therapeutic indices to otherwise highly potent, non-targeted payloads through the targeted delivery to cancer cells provided by our cancer-targeting delivery vehicle. Significant progress has been achieved and the program continues to rapidly advance with a number of PDC molecules showing enhanced pharmacologic behavior over the parent compound alone.
- CLR 1900 Series is an internally developed proprietary PDC program leveraging a novel small molecule cytotoxic compound as the payload. We believe that this program could produce a product candidate targeted to select solid tumors. Currently, the program is in early preclinical development.
- CLR 2000 Series is a collaborative PDC program with Avicenna Oncology, or Avicenna, that we entered into in July 2017. Avicenna is a leading developer of antibody drug conjugates (ADCs). The objective of the research collaboration is to design and develop a series of PDCs utilizing Avicenna's proprietary cytotoxic payload. Although Avicenna is a leading developer of ADCs, this collaboration was sought as a means to overcome many of the challenges associated with ADCs, including those associated with the targeting of specific cell surface epitopes.
- CLR 2100 and 2200 Series are collaborative PDC programs with Onconova Therapeutics, Inc., or Onconova, that we entered into in September 2017. Onconova is a biotechnology company specializing in the discovery and development of novel small molecule cancer therapies. The collaboration is structured such that we will design and develop a series of PDCs utilizing different small molecules that Onconova was developing as the payloads with the intent to show improved targeting and specificity to the tumor. At least one of the molecules was taken into Phase 1 clinical trials previously by Onconova. We would own all new intellectual property associated with the design of the new PDCs and both companies will have the option to advance compounds.

We believe our PDC platform has the potential to provide targeted delivery of a diverse range 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 of a broad range of human cancers.

Our shares are listed on the Nasdaq Capital Market under the symbol CLRB; prior to August 15, 2014, our shares were quoted on the OTCQX marketplace, and prior to February 12, 2014 were quoted under the symbol NVLT.

THE OFFERING

Securities offered by us:	1,954,388 shares of our common stock and 41.0412949 shares of Series B Preferred Stock convertible into an aggregate of 2,190,330 shares of common stock
Description of Series B Preferred Stock:	Each share of Series B Preferred Stock is convertible at any time at the holder's option into 53,369 shares of common stock (equal to \$100,000 divided by the Conversion Price). Notwithstanding the foregoing, we shall not effect any conversion of Series B Preferred Stock, to the extent that, after giving effect to an attempted conversion, the holder of shares of Series B Preferred Stock (together with such holder's affiliates, and any persons acting as a group together with such holder or any of such holder's affiliates) would beneficially own a number of shares of our common stock in excess of 4.99% of the shares of our common stock then outstanding after giving effect to such exercise. For additional information, see "Description of Securities—Preferred Stock" on page S-8 of this prospectus. The Series B Preferred Stock is callable by us in certain circumstances.
Common stock outstanding before this offering:	13,859,573 shares
Common stock to be outstanding after the offering:	15,813,961 shares
Use of proceeds:	We expect to receive net proceeds of approximately \$7 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-6 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 and Series B Preferred Stock in this offering Series D warrants to purchase an aggregate of 3,108,538 shares of our common stock ("Warrant Shares"). The purchase price attributable to each Warrant Share is equal to \$0.125, consistent with the Nasdaq National Market requirements for an "at the market" offering. The Series D warrants are immediately exercisable on the closing date of the offering at an exercise price of \$1.78 per share and will expire on the seventh anniversary of the closing date. The Series D warrants and the shares of our common stock issuable upon the exercise of the Series D 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 13,859,573 shares of common stock outstanding as of October 9, 2017 and excludes, as of that date:

- 2,190,330 shares issuable upon conversion of the Series B Preferred Stock;
- 3,108,538 shares issuable upon the exercise of the Series D warrants;
- an aggregate of 531,729 shares of common stock issuable upon the exercise of outstanding stock options issued to employees, directors and consultants;
- an aggregate of 869,766 additional shares of common stock reserved for future issuance under our stock incentive plans; and
- an aggregate of 8,726,536 additional shares of common stock reserved for issuance under outstanding warrant agreements entered into having expiration dates between November 2, 2017 and November 29, 2021, and exercise prices ranging from \$1.50 per share to \$250.00 per share.

Unless we specifically state otherwise, the share information in this prospectus supplement is as of October 9, 2017 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 for the fiscal year ended December 31, 2016 filed with the SEC on March 15, 2017, our Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2017, filed with the SEC on May 11, 2017, and our Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2015, filed with the SEC on August 14, 2017, 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 “Use 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.

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 1,954,388 shares of common stock and 41,041,294 shares of our Series B Preferred Stock convertible into an aggregate of 2,190,330 shares of common stock (assuming full conversion thereof) at the public offering price of \$1.87375 per share 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 \$0.91 per share, or 49%, 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 \$7.035 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, 2017 was approximately \$9.2 million, or \$0.69 per share of common stock, based upon 13,462,170 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 \$119,600 at that date.

After giving effect to the sale of 1,954,388 shares of common stock and 41.0412949 shares of Series B Preferred Stock convertible into an aggregate of 2,190,330 shares of common stock (assuming full conversion thereof) at the public offering price of \$1.87375 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, 2017 would have been approximately \$16.3 million, or \$0.93 per share. This represents an immediate increase in net tangible book value of approximately \$0.24 per share to our existing stockholders, and an immediate dilution of \$0.91 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 (directly or upon conversion of Series B Preferred Stock)		\$	1.87375
Net tangible book value per share as of June 30, 2017	\$	0.69	
Increase per share attributable to sale of securities to investors	\$	<u>0.24</u>	
Adjusted net tangible book value per share after the offering		\$	<u>0.93</u>
Dilution per share to investors		\$	<u>0.91</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 D 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 Capital Stock” beginning on page 7 of the accompanying prospectus. As of October 9, 2017, we had 13,859,573 shares of common stock outstanding.

DESCRIPTION OF PREFERRED STOCK

Our board of directors has designated 42 shares of our preferred stock as Series B Convertible Preferred Stock (“Series B Preferred Stock”), none of which are currently issued and outstanding. The preferences and rights of the Series B Preferred Stock will be as set forth in a Certificate of Designation (the “Series B Certificate of Designation”) filed as an exhibit to the current report on Form 8-K dated as of the date hereof, which is incorporated by reference into the registration statement of which this prospectus supplement is a part. The Series B Preferred Stock will be issued and represented only by one or more certificates registered in the name of the holder.

The following is a summary of the material terms of the Series B Preferred Stock.

Voting. Except as otherwise required by law, the Series B Preferred Stock will have no voting rights. However, as long as any shares of Series B Preferred Stock are outstanding, we may not, without the affirmative vote of the holders of a majority of the then outstanding shares of Series B Preferred Stock, (a) alter or change adversely the powers, preferences or rights given to the Series B Preferred Stock or alter or amend Certificate of Designation relating to the Series B Preferred Stock, (b) amend our certificate of incorporation or other charter documents in any manner that adversely affects any rights of the holders of Series B Preferred Stock, (c) increase the number of authorized shares of Preferred Stock, or (d) enter into any agreement with respect to any of the foregoing.

Dividends. Except for stock dividends or distributions for which adjustments are to be made to the conversion rate of the Series B Preferred Stock, holders of Series B Preferred Stock will be entitled to receive, and we will be required to pay, dividends on shares of Series B Preferred Stock equal (on an as-if-converted-to-common-stock basis without regard to conversion limitations) to and in the same form as dividends actually paid on shares of the common stock when, as and if such dividends are paid on shares of the common stock. No other dividends shall be paid on shares of Series B Preferred Stock.

Liquidation. Upon our liquidation, dissolution or winding-up, whether voluntary or involuntary, the holders of the Series B Preferred Stock shall be entitled to receive out of our assets, whether capital or surplus, the same amount that a holder of common stock would receive if the Series B Preferred Stock were fully converted (disregarding for such purposes any conversion limitations) to common stock which amounts shall be paid *pari passu* with all holders of common stock.

Conversion. Each share of Series B Preferred Stock shall be convertible, at any time and from time to time from at the option of the holder thereof, into that number of shares of common stock determined by dividing the stated value of such share of Series B Preferred Stock by Series B Conversion Price. The stated value of one share of Series B Preferred Stock is initially \$100,000.00 and the “Series B Conversion Price” will initially be \$1.87375, subject to adjustment for stock splits, stock dividends, distributions, subdivisions and combinations.

Conversion Limitation. A holder will not have the right to convert any shares of Series B Preferred Stock 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 conversion, as such percentage ownership is determined in accordance with the terms of the Series B Preferred Stock Certificate of Designation (the “Beneficial Ownership Limitation”). 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.

Exchange Listing. We do not plan on applying to list the Series B Preferred Stock 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 Preferred Stock Certificate of Designation 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 Preferred Stock will be entitled to receive upon conversion of the Series B Preferred Stock the kind and amount of securities, cash or other property that the holders would have received had they converted the Series B Preferred Stock immediately prior to such fundamental transaction.

Redemption. Beginning on the third anniversary of the closing date of this offering, we will have the right to cause each holder of Series B Preferred Stock to convert all or part of such holder’s Series B Preferred Stock upon 20 calendar days prior written notice to such holder (which notice may be given by the transfer agent), subject to the Preferred Stock Beneficial Ownership Limitation and satisfaction of certain other conditions. Such notice may not be given prior to the third anniversary of the closing date of this offering and shall be given in accordance with any applicable procedures of the depositary for the Series B Preferred Stock. Additionally, subject to certain exceptions, at any time prior to the three year anniversary of the issuance of the Series B Preferred Stock, subject to the Preferred Stock Beneficial Ownership Limitation, we will have the right to cause each holder of the Series B Preferred Stock to convert all or part of such holder’s Series B Preferred Stock in the event that (i) the volume weighted average price of our common stock for 30 consecutive trading days (the “Measurement Period”) exceeds \$4.684375 (subject to adjustment for forward and reverse stock splits, recapitalizations, stock dividends and similar transactions), and (ii) the average daily trading volume for such Measurement Period exceeds \$300,000 per trading day. Our right to cause each holder of the Series B Preferred Stock to convert all or part of such holder’s Series B Preferred Stock shall be exercised ratably among the holders of the then outstanding preferred stock.

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 Preferred Stock in this offering Series D warrants to purchase 0.75 shares of our common stock for each share of common stock purchased or underlying each share of Series B Preferred Stock in this offering. The purchase price attributable to each Series D warrant is equal to \$0.125 for each Warrant Share, consistent with the Nasdaq National Market requirements for an “at the market” offering.

The offering and sale of the Series D warrants and the shares of our common stock issuable upon the exercise of the Series D 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 D 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 D warrant is immediately exercisable on the closing date of this offering, which we refer to as the initial exercise date, at an exercise price of \$1.78 per share, subject to adjustment, and will remain exercisable for seven (7) years from initial exercise date, but not thereafter. A holder of Series D 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 D 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 D 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 D warrants.

The Series D 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 D warrants as determined in accordance with the Black Scholes option pricing model.

We will be required to file a registration statement on Form S-1 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 D warrants and will be obligated to use our commercially reasonable efforts to keep such registration statement effective from the date the Series D 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 D warrants may be sold without registration pursuant to Rule 144 under the Securities Act, and (ii) the date on which all of the shares of common stock issuable upon the exercise of the Series D 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 agency agreement dated October 10, 2017. The placement agent is not purchasing or selling any of the shares of our common stock or Series B Preferred 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 or Series B Preferred Stock, but has agreed to use its reasonable best efforts to arrange for the sale of all of the shares of our common stock and Series B Preferred 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 and shares of Series B Preferred 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.

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 and shares of Series B Preferred 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 of Common Stock and Series D Warrant ⁽¹⁾	Per Share of Series B Preferred Stock and Series D Warrant ⁽²⁾	Total
Public offering price	\$ 1.87375	\$ 100,000	\$ 7,766,164.01
Placement agent fees ⁽³⁾	\$ 0.1405	\$ 7,500	\$ 582,462.30
Proceeds, before expenses, to Collectar Biosciences, Inc.	\$ 1.73325	\$ 92,500	\$ 7,183,701.70

(1) Consists of fixed combinations comprised of (i) one share of common stock sold in this offering and (ii) 0.75 shares of common stock issuable upon exercise of warrants issued in a private placement. See "Private Placement Transaction".

(2) Consists of fixed combinations comprised of (i) one share of Series B Preferred Stock sold in this offering convertible into approximately 53,368 shares of common stock and (ii) approximately 40,026 shares of common stock issuable upon exercise of warrants issued in a private placement. See "Private Placement Transaction".

(3) In addition, we have agreed to pay the placement agent's actual out-of-pocket expenses up to \$20,000 in the aggregate. See "Private Placement Transaction".

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 Baker Tilly Virchow Krause, 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 Michael Best & Friedrich LLP of Madison, Wisconsin. Ellenoff Grossman & Schole LLP has acted as counsel for the placement agent.

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 for the fiscal year ended December 31, 2016, filed with the SEC on March 15, 2017;
- our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2017, filed with the SEC on May 11, 2017;
- our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 24, 2017;
- our Current Report on Form 8-K, filed with the SEC on February 3, 2017;
- our Current Report on Form 8-K, filed with the SEC on April 11, 2017;
- our Current Report on Form 8-K, filed with the SEC on June 1, 2017;
- our Current Report on Form 8-K, filed with the SEC on August 18, 2017;
- our Current Report on Form 8-K, filed with the SEC on September 12, 2017;
- our Current Report on Form 8-K, filed with the SEC on October 11, 2017; 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 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 Cellestar Biosciences, Inc., 3301 Agriculture Drive, Madison, WI 53716, Attention: Chief Financial Officer.

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

Any statement made in this prospectus supplement and the accompanying prospectus concerning the contents of any contract, agreement or other document is only a summary of the actual contract, agreement or other document. If we have filed or incorporated by reference any contract, agreement or other document as an exhibit to the registration statement, you should read the exhibit for a more complete understanding of the document or matter involved. Each statement regarding a contract, agreement or other document is qualified by reference to the actual document.

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.



\$50,000,000

**Common Stock
Preferred Stock
Warrants
Units
Subscription Rights**

Cellestar Biosciences, Inc. (“we,” “us” or the “Company”) may from time to time offer to sell any combination of the securities described in this prospectus, in one or more offerings. The aggregate initial offering price of all securities sold under this prospectus will not exceed \$50,000,000.

This prospectus provides a general description of the securities we may offer. Each time we sell securities, we will provide specific terms of the securities offered in a supplement to this prospectus. We may also authorize one or more free writing prospectuses to be provided to you in connection with these offerings. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. You should carefully read this prospectus, the applicable prospectus supplement and any related free writing prospectus, as well as any documents incorporated by reference herein or therein before you invest in any securities.

This prospectus may not be used to consummate a sale of any securities unless accompanied by a prospectus supplement.

Our common stock is traded on the Nasdaq Capital Market under the symbol CLRB. On May 31, 2017, the last reported sale price for our common stock was \$1.74 per share. The aggregate market value of our outstanding common stock held by non-affiliates, or public float, as of the date of this prospectus is approximately \$27.7 million based on 12,773,385 shares of outstanding common stock held by non-affiliates, and a per share price of \$2.17, which was the last reported sale price of our common stock on the Nasdaq Capital Market on April 7, 2017 (a date within 60 days of the date hereof). Pursuant to General Instruction I.B.6 of Form S-3, in no event will we sell securities registered on the registration statement of which this prospectus is a part in a public primary offering with a value exceeding more than one-third of our public float in any 12-month period if our public float, measured in accordance with such instruction, remains below \$75.0 million. As of the date hereof, we have not offered any securities pursuant to General Instruction I.B.6 of Form S-3 during the 12 calendar months prior to and including the date of this prospectus. The applicable prospectus supplement will contain information, where applicable, as to any other listing on the Nasdaq Capital Market or any securities market or other exchange of the securities, if any, covered by the prospectus supplement.

At no time will we issue shares of common stock (whether upon conversion or exercise of warrants, preferred stock, units or subscription rights) in a transaction other than a public offering if such transaction would result in the issuance of more than 19.999% of the amount of common stock issued and outstanding for less than the greater of book or market value of the common stock unless (i) our stockholders have approved the issuance of shares of common stock in excess of 20%, or (ii) Nasdaq has provided a waiver of Listing Rule 5635(d).

We may sell these securities directly to investors, through agents designated from time to time or to or through underwriters or dealers. For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution” in this prospectus. If any underwriters are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters and any applicable commissions or discounts will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page 7.

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 September 20, 2017.

TABLE OF CONTENTS

	Page
<u>ABOUT THIS PROSPECTUS</u>	<u>2</u>
<u>SUMMARY</u>	<u>3</u>
<u>RISK FACTORS</u>	<u>7</u>
<u>CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS</u>	<u>7</u>
<u>USE OF PROCEEDS</u>	<u>7</u>
<u>DESCRIPTION OF SECURITIES WE MAY OFFER</u>	<u>7</u>
<u>DESCRIPTION OF CAPITAL STOCK</u>	<u>8</u>
<u>DESCRIPTION OF WARRANTS</u>	<u>10</u>
<u>DESCRIPTION OF UNITS</u>	<u>11</u>
<u>DESCRIPTION OF SUBSCRIPTION RIGHTS</u>	<u>11</u>
<u>PLAN OF DISTRIBUTION</u>	<u>12</u>
<u>LEGAL MATTERS</u>	<u>14</u>
<u>EXPERTS</u>	<u>14</u>
<u>WHERE YOU CAN FIND ADDITIONAL INFORMATION</u>	<u>14</u>
<u>INCORPORATION OF CERTAIN INFORMATION BY REFERENCE</u>	<u>14</u>

ABOUT THIS PROSPECTUS

This prospectus is a part of a registration statement that we filed with the Securities and Exchange Commission (the “SEC”) utilizing a “shelf” registration process. Under this shelf registration process, we may sell any combination of the securities described in this prospectus in one or more offerings up to a total dollar amount of \$50,000,000. This prospectus provides you with a general description of the securities we may offer. Each time we sell securities under this shelf registration, we will provide a prospectus supplement that will contain specific information about the terms of that offering. We may also authorize one or more free writing prospectuses to be provided to you that may contain material information relating to these offerings. The prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in any documents that we have incorporated by reference into this prospectus. You should read this prospectus, any applicable prospectus supplement and any related free writing prospectus, together with the information incorporated herein by reference as described under the heading “Where You Can Find Additional Information.”

You should rely only on the information that we have provided or incorporated by reference in this prospectus, any applicable prospectus supplement and any related free writing prospectus that we may authorize to be provided to you. We have not authorized any dealer, salesman or other person to give any information or to make any representation other than those contained or incorporated by reference in this prospectus, any applicable prospectus supplement or any related free writing prospectus that we may authorize to be provided to you. You must not rely upon any information or representation not contained or incorporated by reference in this prospectus, the accompanying prospectus supplement or related free writing prospectus. We take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you.

This prospectus, the accompanying supplement to this prospectus and any related free writing prospectus, if any, do not constitute an offer to sell or the solicitation of an offer to buy any securities other than the registered securities to which they relate, nor do this prospectus, the accompanying supplement to this prospectus or any related free writing prospectus, if any, constitute an offer to sell or the solicitation of an offer to buy securities in any jurisdiction to any person to whom it is unlawful to make such offer or solicitation in such jurisdiction. You should not assume that the information contained in this prospectus, any applicable prospectus supplement or any related free writing prospectus is accurate on any date subsequent to the date set forth on the front of the document or that any information we have incorporated by reference therein is correct on any date subsequent to the date of the document incorporated by reference, even though this prospectus, any applicable prospectus supplement or any related free writing prospectus is delivered or the applicable securities are sold on a later date.

SUMMARY

This summary highlights selected information from this prospectus and the documents incorporated herein by reference and does not contain all of the information that you need to consider in making your investment decision. You should carefully read the entire prospectus, including the risks of investing in our securities discussed under "Risk Factors" beginning on page 7 of this prospectus, the information incorporated herein by reference, including our financial statements, and the exhibits to the registration statement of which this prospectus is a part. All references in this prospectus to "we," "us," "our," the "Company" and similar designations refer to Collectar Biosciences, Inc. and its consolidated subsidiary, unless otherwise indicated or as the context otherwise requires.

Business Overview

We are a clinical stage biopharmaceutical company focused on the development of targeted phospholipid drug conjugates (PDCs) for the treatment and imaging of cancer. Our research and development program is based on its proprietary PDC cancer targeting delivery platform. The delivery platform possesses the potential for the discovery and development of a broad range of cancer targeting agents. Our pipeline is comprised of pre-clinical and clinical product candidates including radiotherapeutic and chemotherapeutic PDC's. The pipeline also includes diagnostic and optical imaging assets. Our research and development resources are focused on the clinical advancement of its therapeutic PDC's.

Our core company strategy is to leverage our industry leading PDC, proprietary cancer targeting delivery platform to generate capital, supplement internal resources and accelerate and broaden product candidate clinical development through strategic asset and research collaborations.

Our shares are listed on the Nasdaq Capital Market under the symbol CLRB; prior to August 15, 2014, our shares were quoted on the OTCQX marketplace, and prior to February 12, 2014 were quoted under the symbol NVLT.

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 and cancer stem cells. By linking various drug 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 drug payloads and enhancing or maintaining efficacy while minimizing the off-target and toxic side effects that frequently occur with typical cancer therapies. The Company is currently focused on the development of its lead therapeutic product candidate, CLR 131. Additionally, the Company is executing the pre-clinical evaluation and development of its CLR CTX Chemotherapeutic PDC program with both internal and external resources.

- CLR 131 is a small-molecule, cancer-targeting radiotherapeutic PDC that is designed to deliver cytotoxic (cell-killing) radiation directly and selectively to cancer cells and cancer stem cells. CLR 131 is our lead therapeutic PDC product candidate and is currently being evaluated in both Phase 1 and Phase 2 clinical studies. The Phase 1 clinical study is a standard three by three dose escalation safety study in patients with relapse or refractory multiple myeloma. Multiple myeloma is the second most common hematologic cancer and an incurable cancer of plasma cells. This cancer type was selected for clinical, regulatory and commercial rationales, including multiple myeloma's highly radiosensitive nature, and continued unmet medical need in the relapse/refractory setting. The primary goals of the Phase 1 study are to assess the compound's safety and tolerability in patients with relapsed or refractory multiple myeloma. Secondary objectives includes establishment of a recommended Phase 2 dose, both with and without dexamethasone, as well as an assessment of therapeutic activity, including surrogate efficacy markers, progression free survival (PFS) and overall survival. 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 CLR 131 for the treatment of multiple myeloma. The Phase 1 study was initiated in April 2015 and we announced favorable safety results from the first patient cohort in January 2016. The study's Data Monitoring Committee (DMC), unanimously agreed to allow us to increase the dose of CLR 131 by 50% and advance into the second cohort. The DMC reviewed Cohort 2 patient safety data in September 2016, and unanimously agreed to allow us to increase the dose by 33% and advance to Cohort 3. In February 2017, the DMC unanimously determined the safety profile was again favorable in Cohort 3 and that it was acceptable to advance into Cohort 4 with an increase in dose by 20%. Surrogate markers of efficacy, including M protein, Free Light Chain (FLC), Progression Free Survival (PFS), and Overall Survival (OS), are also captured as secondary objectives of this Phase 1 study. In July 2016, the Company was awarded a \$2,000,000 National Cancer Institute Fast-Track Small Business Innovation Research (SBIR) grant to further advance CLR 131. The funds are supporting a Phase 2 study the Company initiated in March 2017 to further define the clinical benefits of CLR 131 in multiple myeloma and other rare hematologic malignancies.

- The Company is exploring the creation of additional PDCs ranging from newly discovered to well-characterized chemotherapeutic payloads under its CLR CTX Chemotherapeutic PDC program. The objective of our CTX program is to develop PDC chemotherapeutics through conjugation of our delivery vehicle and non-targeted anti-cancer agents to improve therapeutic indices and expand potential indications through the targeted delivery of chemotherapeutic payloads. Initial CTX product candidates include CLR 1601-PTX, CLR 1602-PTX and CLR 1603-PTX; all are small-molecule, cancer-targeting chemotherapeutics in pre-clinical research. These PDCs are designed to selectively deliver paclitaxel, a chemotherapeutic payload to cancer cells and cancer stem cells increasing the therapeutic index of paclitaxel as a monotherapy. Each of our paclitaxel PDC's have been evaluated *in vitro* to demonstrate formulation stability and CLR 1602-PTX is currently being studied *in vivo* to further explore the PDC's cancer targeting selectivity. In December of 2015, the Company entered into a research collaboration for our PDC technology with Pierre Fabre laboratories, the third largest French pharmaceutical company. In October 2017, we extended this research collaboration. The objective of the research collaboration is to co-design a library of PDC's employing Pierre Fabre's chemotherapeutics in combination with our proprietary cancer targeting delivery vehicle. The newly developed PDC's may provide enhanced therapeutic indices to otherwise highly potent, non-targeted payloads through the targeted delivery to cancer cells provided by our cancer targeted delivery vehicle.
- LR 125 is a cancer-targeting radiotherapeutic currently under pre-clinical investigation for the treatment of micrometastatic disease. Similar to CLR 131, the selective uptake and retention of CLR 125 has been observed in malignant tissues during pre-clinical studies. Preclinical evaluation of this molecule was completed in June 2016 as part of the Phase 1 portion of an NCI SBIR award and demonstrated favorable biodistribution, tolerability, and dose response.

The Company's product pipeline also includes a diagnostic imaging agent, CLR 124, a Phase 2-ready asset, as well as our 1500 series of optical imaging agents, including 1502, a Phase 1-ready asset. Although these are intriguing and potentially clinically useful compounds, at this time the Company has prioritized the development of its therapeutic assets.

We believe our PDC platform has potential to provide targeted delivery of a diverse range 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 of a broad range of human cancers.

For more information regarding the material risks and uncertainties we face, please see "Risk Factors" beginning on page 7 of this prospectus.

Corporate Information

Our headquarters and manufacturing operation is located at 3301 Agriculture Drive, Madison, Wisconsin 53716 and the telephone number at that address is (608) 441-8120. We maintain a website at www.cellectar.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.

Securities We May Offer

We may offer shares of our common stock and preferred stock, various series of warrants to purchase any of such securities, either individually or in units and/or subscription rights, from time to time under this prospectus, together with any applicable prospectus supplement and related free writing prospectus, at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities, including, to the extent applicable:

- designation or classification;
- aggregate principal amount or aggregate offering price;
- rates and times of payment of dividends, if any;
- redemption, conversion or exchange terms, if any;
- conversion or exchange prices or rates, if any, and, if applicable, any provisions for changes to or adjustments in the conversion or exchange prices or rates and in the securities or other property receivable upon conversion or exchange;
- ranking;
- restrictive covenants, if any;
- voting or other rights, if any; and
- important United States federal income tax considerations.

A prospectus supplement and any related free writing prospectus that we may authorize to be provided to you may also add, update or change information contained in this prospectus or in documents we have incorporated by reference. However, no prospectus supplement or free writing prospectus will offer a security that is not registered and described in this prospectus at the time of the effectiveness of the registration statement of which this prospectus is a part.

We may sell the securities directly to or through underwriters, dealers or agents. We, and our underwriters or agents, reserve the right to accept or reject all or part of any proposed purchase of securities. If we do offer securities through underwriters or agents, we will include in the applicable prospectus supplement:

- the names of those underwriters or agents;
- applicable fees, discounts and commissions to be paid to them;
- details regarding over-allotment options, if any; and
- the net proceeds to us.

Common Stock

We may offer shares of our common stock, par value \$0.00001 per share, either alone or underlying other registered securities convertible into or exercisable for our common stock. Holders of our common stock are entitled dividends as the Board of Directors of the Company (the “Board”) may declare from time to time out of legally available funds, subject to the preferential rights of the holders of any shares of our preferred stock that are outstanding or that we may issue in the future. Currently, we do not have any issued and outstanding preferred stock. Each holder of our common stock is entitled to one vote per share. In this prospectus, we provide a general description of, among other things, our dividend policy and the rights and restrictions that apply to holders of our common stock. Our common stock is described in greater detail in this prospectus under “Description of Capital Stock — Common Stock.”

Preferred Stock

We may issue shares of preferred stock, par value \$0.00001 per share, in one or more classes or series. Our Board or a committee designated by our Board will determine the dividend, voting and conversion rights and other provisions at the time of sale. The particular terms of each class or series of preferred stock, including redemption privileges, liquidation preferences, voting rights, dividend rights and/or conversion rights, will be more fully described in the applicable prospectus supplement relating to the preferred stock offered thereby. Our preferred stock is described in greater detail in this prospectus under “Description of Capital Stock — Preferred Stock.”

Warrants

We may from time to time offer warrants for the purchase of our common stock and/or preferred stock in one or more series. We may issue warrants independently or together with common stock and/or preferred, and the warrants may be attached to or separate from those securities. The warrants may be evidenced by warrant certificates issued under one or more warrant agreements, which are contracts between us and an agent for the holders of the warrants. In this prospectus, we have summarized certain general features of the warrants under “Description of Warrants.” We urge you, however, to read the prospectus supplements and any free writing prospectus that we may authorize to be provided to you related to the series of warrants being offered, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants. Specific warrant agreements will contain additional important terms and provisions and will be incorporated by reference as an exhibit to the registration statement which includes this prospectus.

Units

We may offer units consisting of common stock, preferred stock, and/or warrants to purchase any of such securities in one or more series. In this prospectus, we have summarized certain general features of the units under “Description of Units.” We urge you, however, to read the prospectus supplements and any free writing prospectus that we may authorize to be provided to you related to the series of units being offered, as well as the unit agreements that contain the terms of the units. We will evidence each series of units by unit certificates that we will issue under a separate agreement. We will enter into the unit agreements with a unit agent. Each unit agent will be a bank or trust company that we select. We will indicate the name and address of the unit agent in the applicable prospectus supplement relating to a particular series of units. The specific form of unit agreement and any supplemental agreements that describe the terms of the series of units we are offering before the issuance of the related series of units will be incorporated by reference as an exhibit to the registration statement which includes this prospectus.

Subscription Rights

We may issue subscription rights to purchase common stock, preferred stock or other securities described in this prospectus or any combination thereof. In this prospectus, we have summarized certain general features of the units under “Description of Subscription Rights.” These subscription rights may be issued independently or together with any other security offered by us and may or may not be transferable by the securityholder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other investors pursuant to which the underwriters or other investors may be required to purchase any securities remaining unsubscribed for after such offering. The specific form of subscription rights agreement and any supplemental agreements that describe the terms of the subscription rights we are offering before the issuance of the related subscription rights will be incorporated by reference as an exhibit to the registration statement which includes this prospectus.

RISK FACTORS

Investment in our securities involves a high degree of risk. Prior to making a decision about investing in our securities, prospective investors should consider carefully all of the information included and incorporated by reference or deemed to be incorporated by reference in this prospectus or the applicable prospectus supplement, including the risk factors incorporated by reference herein from our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, as updated by annual, quarterly and other reports and documents we file with the SEC after the date of this prospectus and that are incorporated by reference herein or in the applicable prospectus supplement. Each of these risk factors could have a material adverse effect on our business, results of operations, financial position or cash flows, which may result in the loss of all or part of your investment. For more information, see “Where You Can Find Additional Information” and “Incorporation of Certain Information by Reference.”

CAUTIONARY NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the documents incorporated by reference herein contain, or will contain, “forward-looking statements” within the meaning of Section 27A of the Securities Act and Section 21E of the Securities Exchange Act of 1934 (the “Exchange Act”), which include statements that express plans, anticipation, intent, contingency, goals, targets or future development and/or otherwise are not statements of historical fact. These statements are based on our management’s current beliefs, expectations and assumptions about future events, conditions and results and on information currently available to us. Discussions containing these forward-looking statements may be found, among other places, in the Sections entitled “Business,” “Risk Factors” and “Management’s Discussion and Analysis of Financial Condition and Results of Operations” incorporated by reference from our most recent Annual Report on Form 10-K and in our Quarterly Reports on Form 10-Q, as well as any amendments thereto, filed with the SEC.

In some cases, you can identify forward-looking statements by terminology, such as “expects,” “anticipates,” “intends,” “estimates,” “plans,” “believes,” “seeks,” “may,” “should,” “could” or the negative of such terms or other similar expressions, but these are not the exclusive means of identifying forward-looking statements. Forward-looking statements involve estimates, assumptions and uncertainties that could cause actual results to differ materially from those expressed in them. Any forward-looking statements are qualified in their entirety by reference to the factors discussed throughout this prospectus. Such statements are subject to various risks, uncertainties and assumptions that could cause actual results to differ materially from those anticipated or implied in our forward-looking statements due to a number of factors including, but not limited to, those set forth above under the section entitled “Risk Factors” in this prospectus and any accompanying prospectus supplement. Given these risks, uncertainties and other factors, many of which are beyond our control, you should not place undue reliance on these forward-looking statements.

Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to revise any forward-looking statements to reflect events or developments occurring after the date of this prospectus, even if new information becomes available in the future.

USE OF PROCEEDS

Unless we specify otherwise in a prospectus supplement, we intend to use the net proceeds from our sale of the securities under this prospectus for general corporate purposes, which may include making additions to our working capital, funding future acquisitions, or for any other purpose we describe in the applicable prospectus supplement.

We have not yet determined the amount of net proceeds to be used specifically for any of the foregoing purposes. Accordingly, our management will have broad discretion over the uses of such proceeds. The specific allocations of the proceeds we receive from the sale of our securities will be described in the applicable prospectus supplement.

DESCRIPTION OF SECURITIES WE MAY OFFER

We may offer shares of our common stock and preferred stock, various series of warrants to purchase any of such securities, either individually or in units and/or subscription rights, from time to time under this prospectus, together with any applicable prospectus supplement and related free writing prospectus, at prices and on terms to be determined by market conditions at the time of offering. This prospectus provides you with a general description of the securities we may offer. Each time we offer a type or series of securities, we will provide a prospectus supplement that will describe the specific amounts, prices and other important terms of the securities. We may offer up to \$50,000,000 of securities under this prospectus.

DESCRIPTION OF CAPITAL STOCK

The following description of our common stock and preferred stock, together with any additional information we include in any applicable prospectus supplement or any applicable free writing prospectus, summarizes the material terms and provisions of our common stock and the preferred stock that we may offer under this prospectus. While the terms we have summarized below will apply generally to any future common stock or preferred stock that we may offer, we will describe the particular terms of any class or series of these securities in more detail in the applicable prospectus supplement. 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, 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. Our certificate of incorporation and our by-laws are incorporated by reference into the registration statement of which this prospectus is a part or may be incorporated by reference in this prospectus or any applicable prospectus supplement.

Authorized and Outstanding Capital Stock

Our authorized capital stock consists of 80,000,000 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 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.

As of May 31, 2017, we had 13,462,170 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 non-assessable.

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.

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 certificate of incorporation prohibits us from granting preemptive rights to any of our stockholders.

All of the outstanding shares of our common stock are, and the shares of common stock issued upon the conversion of any securities convertible into our common stock will be, fully paid and non-assessable. The shares of common stock offered by this prospectus or upon the conversion of any preferred stock or exercise of any warrants offered pursuant to this prospectus, when issued and paid for, will also be, fully paid and non-assessable.

Our common stock is listed on the Nasdaq Capital Market under the symbol CLRB. The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company.

Preferred Stock

We are authorized to issue 7,000 shares of preferred stock, none of which were issued and outstanding as of May 31, 2017. Our Board is authorized, without action by our stockholders, to classify or reclassify any unissued portion of our authorized shares of preferred stock to provide for the issuance of shares of other classes or series, including preferred stock in one or more series. Our Board may fix or alter the dividend rights, dividend rate, conversion rights, voting rights, rights and terms of redemption, the redemption price or prices, the liquidation preferences of any wholly unissued series of Preferred Stock, and the number of shares constituting any such series and the designation thereof, or any of them; and to increase or decrease the number of shares of any series subsequent to the issue of shares of that series, but not below the number of shares of such series then outstanding. In case the number of shares of any series shall be so decreased, the shares constituting such decrease shall resume the status which they had prior to the adoption of the resolution originally fixing the number of shares of such series.

The particular terms of each class or series of preferred stock that we may offer under this prospectus, including redemption privileges, liquidation preferences, voting rights, dividend rights and/or conversion rights, will be more fully described in the applicable prospectus supplement relating to the preferred stock offered thereby. The rights, preferences, privileges and restrictions of the preferred stock of each series will be fixed by the certificate of designation relating to each series. We will incorporate by reference into the registration statement of which this prospectus is a part the form of any certificate of designation that describes the terms of the series of preferred stock we are offering before the issuance of the related series of preferred stock. The applicable prospectus supplement will specify the terms of the series of preferred stock we may offer, including, but not limited to:

- the distinctive designation and the maximum number of shares in the series;
- the number of shares we are offering and purchase price per share;
- the liquidation preference, if any;
- the terms on which dividends, if any, will be paid;
- the voting rights, if any, on the shares of the series;
- the terms and conditions, if any, on which the shares of the series shall be convertible into, or exchangeable for, shares of any other class or classes of capital stock;
- the terms on which the shares may be redeemed, if at all;
- any listing of the preferred stock on any securities exchange or market;
- a discussion of any material or special United States federal income tax considerations applicable to the preferred stock; and
- any or all other preferences, rights, restrictions, including restrictions on transferability, and qualifications of shares of the series.

The issuance of preferred stock may delay, deter or prevent a change in control.

The description of preferred stock above and the description of the terms of a particular series of preferred stock in any applicable prospectus supplement are not complete. You should refer to the applicable certificate of designation for complete information.

The DGCL provides that the holders of preferred stock will have the right to vote separately as a class on any proposal involving fundamental changes in the rights of holders of that preferred stock. This right is in addition to any voting rights that may be provided for in the applicable certificate of designation.

Possible Anti-Takeover Effects of Delaware Law and our Certificate of Incorporation and By-laws

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 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 by-laws). 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.

Delaware Anti-Takeover Statute. We are subject to Section 203 of the DGCL, an anti-takeover statute. In general, Section 203 of the DGCL prohibits a publicly held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a period of three years following the time the person became an interested stockholder, unless the business combination or the acquisition of shares that resulted in a stockholder becoming an interested stockholder is approved in a prescribed manner. Generally, a “business combination” includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. Generally, an “interested stockholder” is a person who, together with affiliates and associates, owns (or within three years prior to the determination of interested stockholder status did own) 15% or more of a corporation’s voting stock. The existence of this provision would be expected to have an anti-takeover effect with respect to transactions not approved in advance by our Board, including discouraging attempts that might result in a premium over the market price for the shares of common stock held by our stockholders

The above provisions may deter a hostile takeover or delay a change in control or management of us.

DESCRIPTION OF WARRANTS

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the warrants that we may offer under this prospectus, which may consist of warrants to purchase common stock or preferred stock and may be issued in one or more series. Warrants may be offered independently or together with common stock or preferred stock offered by any prospectus supplement, and may be attached to or separate from those securities. While the terms we have summarized below will apply generally to any warrants that we may offer under this prospectus, we will describe the particular terms of any series of warrants that we may offer in more detail in the applicable prospectus supplement and any applicable free writing prospectus. The terms of any warrants offered under a prospectus supplement may differ from the terms described below. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness.

We will issue the warrants under a warrant agreement that we will enter into with a warrant agent to be selected by us. The warrant agent will act solely as an agent of ours in connection with the warrants and will not act as an agent for the holders or beneficial owners of the warrants. We will file as exhibits to the registration statement of which this prospectus is a part the form of warrant agreement, including a form of warrant certificate that describes the terms of the particular series of warrants we are offering before the issuance of the related series of warrants. The following summaries of material provisions of the warrants and the warrant agreements are subject to, and qualified in their entirety by reference to, all the provisions of the warrant agreement and warrant certificate applicable to a particular series of warrants. We urge you to read the applicable prospectus supplement and any applicable free writing prospectus related to the particular series of warrants that we sell under this prospectus, as well as the complete warrant agreements and warrant certificates that contain the terms of the warrants.

The applicable prospectus supplement will specify the terms relating to a series of warrants, including:

- the offering price and aggregate number of warrants offered;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each such security or each principal amount of such security;
- if applicable, the date on and after which the warrants and the related securities will be separately transferable;
- the number of shares of common stock or preferred stock, as the case may be, purchasable upon the exercise of one warrant and the price at which these shares may be purchased upon such exercise;
- the effect of any merger, consolidation, sale or other disposition of our business on the warrant agreements and the warrants;
- the terms of any rights to redeem or call the warrants;
- any provisions for changes to or adjustments in the exercise price or number of securities issuable upon exercise of the warrants;
- the dates on which the right to exercise the warrants will commence and expire;
- the manner in which the warrant agreements and warrants may be modified;
- United States federal income tax consequences of holding or exercising the warrants;
- the terms of the securities issuable upon exercise of the warrants; and
- any other specific terms, preferences, rights or limitations of or restrictions on the warrants.

Before exercising their warrants, holders of warrants to purchase common stock or preferred stock will not have any of the rights of holders of the securities purchasable upon such exercise, including the right to receive dividends, if any, or payments upon our liquidation, dissolution or winding up or to exercise voting rights, if any.

DESCRIPTION OF UNITS

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the units that we may offer under this prospectus. While the terms we have summarized below will apply generally to any units that we may offer under this prospectus, we will describe the particular terms of any series of units in more detail in the applicable prospectus supplement. The terms of any units offered under a prospectus supplement may differ from the terms described below. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness.

We will file as exhibits to the registration statement of which this prospectus is a part the form of unit agreement that describes the terms of the series of units we are offering, and any supplemental agreements, before the issuance of the related series of units. The following summaries of material terms and provisions of the units are subject to, and qualified in their entirety by reference to, all the provisions of the unit agreement and any supplemental agreements applicable to a particular series of units. We urge you to read the applicable prospectus supplements related to the particular series of units that we sell under this prospectus, as well as the complete unit agreement and any supplemental agreements that contain the terms of the units.

We may issue units comprised of one or more shares of common stock, shares of preferred stock and warrants in any combination. Each unit will be issued so that the holder of the unit is also the holder of each security included in the unit. Thus, the holder of a unit will have the rights and obligations of a holder of each included security. The unit agreement under which a unit is issued 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.

We will describe in the applicable prospectus supplement the terms of the series of units, including:

- the designation and terms of the units and of the securities comprising the units, including whether and under what circumstances those securities may be held or transferred separately;
- any provisions of the governing unit agreement that differ from those described below; and
- any provisions for the issuance, payment, settlement, transfer or exchange of the units or of the securities comprising the units.

The provisions described in this section, as well as those described under “Description of Capital Stock” and “Description of Warrants” will apply to each unit and to any common stock, preferred stock or warrant included in each unit, respectively.

DESCRIPTION OF SUBSCRIPTION RIGHTS

The following description, together with the additional information we may include in any applicable prospectus supplements and free writing prospectuses, summarizes the material terms and provisions of the subscription rights that we may offer under this prospectus. While the terms we have summarized below will apply generally to any subscription rights that we may offer under this prospectus, we will describe the particular terms of any series of subscription rights in more detail in the applicable prospectus supplement. The terms of any subscription rights offered under a prospectus supplement may differ from the terms described below. However, no prospectus supplement will fundamentally change the terms that are set forth in this prospectus or offer a security that is not registered and described in this prospectus at the time of its effectiveness.

We will file as exhibits to the registration statement of which this prospectus is a part the form of subscription rights agreement that describes the terms of the series of subscription rights we are offering, and any supplemental agreements, before the issuance of the related series of subscription rights. The following summaries of material terms and provisions of the subscription rights are subject to, and qualified in their entirety by reference to, all the provisions of the subscription rights agreement and any supplemental agreements applicable to a particular series of subscription rights. We urge you to read the applicable prospectus supplements related to the particular series of subscription rights that we sell under this prospectus, as well as the complete subscription rights agreement and any supplemental agreements that contain the terms of the subscription rights.

We may issue subscription rights to purchase common stock, preferred stock or other securities described in this prospectus or any combination thereof. These subscription rights may be issued independently or together with any other security offered by us and may or may not be transferable by the holder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other investors pursuant to which the underwriters or other investors may be required to purchase any securities remaining unsubscribed for after such offering.

To the extent appropriate, the applicable prospectus supplement will describe the specific terms of the subscription rights to purchase shares of our securities offered thereby, including the following:

- the date of determining the holders entitled to the rights distribution;
- the price, if any, for the subscription rights;

- the exercise price payable for the common stock, preferred stock or other securities upon the exercise of the subscription right;
- the number of subscription rights issued to each holder
- the amount of common stock, preferred stock, or other securities that may be purchased per each subscription right;
- any provisions for adjustment of the amount of securities receivable upon exercise of the subscription rights or of the exercise price of the subscription rights;
- the extent to which the subscription rights are transferable;
- the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;
- the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities;
- the material terms of any standby underwriting or purchase arrangement entered into by us in connection with the offering of subscription rights;
- any applicable federal income tax considerations; and
- any other terms of the subscription rights, including the terms, procedures and limitations relating to the transferability, exchange and exercise of the subscription rights.

PLAN OF DISTRIBUTION

We may sell the securities being offered hereby in one or more of the following ways from time to time:

- through agents to the public or to investors;
- to underwriters for resale to the public or to investors;
- in "at the market" offerings, within the meaning of Rule 415(a)(4) of the Securities Act, to or through a market maker or into an existing trading market on an exchange or otherwise;
- directly to investors; or
- through a combination of any of these methods of sale.

We will set forth in a prospectus supplement the terms of the particular offering of securities, including:

- the terms of the offering;
- the name or names of any agents or underwriters;
- the purchase price of the securities being offered and the proceeds we will receive from the sale;
- any over-allotment options under which underwriters may purchase additional securities from us;
- any agency fees or underwriting discounts and other items constituting agents' or underwriters' compensation;
- any initial public offering price;
- any discounts or concessions allowed or reallocated or paid to dealers; and
- any securities exchanges or markets on which such securities may be listed.

We may issue to the holders of our common stock on a pro rata basis for no consideration, subscription rights to purchase shares of our common stock or preferred stock. These subscription rights may or may not be transferable by stockholders. The applicable prospectus supplement will describe the specific terms of any offering of our common or preferred stock through the issuance of subscription rights, including the terms of the subscription rights offering, the terms, procedures and limitations relating to the exchange and exercise of the subscription rights and, if applicable, the material terms of any standby underwriting or purchase arrangement entered into by us in connection with the offering of common or preferred stock through the issuance of subscription rights.

Agents

We may designate agents who agree to use their reasonable efforts to solicit purchases of our securities for the period of their appointment or to sell our securities on a continuing basis.

Underwriters

If we use underwriters for a sale of securities, the underwriters will acquire the securities for their own account. The underwriters may resell the securities in one or more transactions, including negotiated transactions, at a fixed public offering price or at varying prices determined at the time of sale. The obligations of the underwriters to purchase the securities will be subject to the conditions set forth in the applicable underwriting agreement. The underwriters will be obligated to purchase all the securities of the series offered if they purchase any of the securities of that series. We may change from time to time any initial public offering price and any discounts or concessions the underwriters allow or reallocate or pay to dealers. We may use underwriters with whom we have a material relationship. We will describe the nature of any such relationship in any prospectus supplement naming any such underwriter. Only underwriters we name in the prospectus supplement are underwriters of the securities offered by the prospectus supplement.

Direct Sales

We may also sell securities directly to one or more purchasers without using underwriters or agents. Underwriters, dealers and agents that participate in the distribution of the securities may be underwriters as defined in the Securities Act, and any discounts or commissions they receive from us and any profit on their resale of the securities may be treated as underwriting discounts and commissions under the Securities Act. We will identify in the applicable prospectus supplement any underwriters, dealers or agents and will describe their compensation. We may have agreements with the underwriters, dealers and agents to indemnify them against specified civil liabilities, including liabilities under the Securities Act. Underwriters, dealers and agents may engage in transactions with or perform services for us in the ordinary course of their businesses.

Delayed Delivery Contracts

If the prospectus supplement indicates, we may authorize agents, underwriters or dealers to solicit offers from certain types of institutions to purchase securities at the public offering price under delayed delivery contracts. These contracts would provide for payment and delivery on a specified date in the future. The contracts would be subject only to those conditions described in the prospectus supplement. The applicable prospectus supplement will describe the commission payable for solicitation of those contracts.

Market Making, Stabilization and Other Transactions

Unless the applicable prospectus supplement states otherwise, each series of offered securities will be a new issue and will have no established trading market. We may elect to list any series of offered securities on an exchange. Any underwriters that we use in the sale of offered securities may make a market in such securities, but may discontinue such market making at any time without notice. Therefore, we cannot assure you that the securities will have a liquid trading market.

Any underwriter may also engage in stabilizing transactions, syndicate covering transactions and penalty bids in accordance with Rule 104 under the Exchange Act. Stabilizing transactions involve bids to purchase the underlying security in the open market for the purpose of pegging, fixing or maintaining the price of the securities. Syndicate covering transactions involve purchases of the securities in the open market after the distribution has been completed in order to cover syndicate short positions.

Penalty bids permit the underwriters to reclaim a selling concession from a syndicate member when the securities originally sold by the syndicate member are purchased in a syndicate covering transaction to cover syndicate short positions. Stabilizing transactions, syndicate covering transactions and penalty bids may cause the price of the securities to be higher than it would be in the absence of the transactions. The underwriters may, if they commence these transactions, discontinue them at any time.

Passive Market Making

Any underwriters who are qualified market makers on the Nasdaq Capital Market may engage in passive market making transactions in the securities on the Nasdaq Capital Market in accordance with Rule 103 of Regulation M, during the business day prior to the pricing of the offering, before the commencement of offers or sales of the securities. Passive market makers must comply with applicable volume and price limitations and must be identified as passive market makers. In general, a passive market maker must display its bid at a price not in excess of the highest independent bid for such security. If all independent bids are lowered below the passive market maker's bid, however, the passive market maker's bid must then be lowered when certain purchase limits are exceeded.

Derivative Transactions and Hedging

We, the underwriters or other agents may engage in derivative transactions involving the securities. These derivatives may consist of short sale transactions and other hedging activities. The underwriters or agents may acquire a long or short position in the securities, hold or resell securities acquired and purchase options or futures on the securities and other derivative instruments with returns linked to or related to changes in the price of the securities. In order to facilitate these derivative transactions, we may enter into security lending or repurchase agreements with the underwriters or agents. The underwriters or agents may effect the derivative transactions through sales of the securities to the public, including short sales, or by lending the securities in order to facilitate short sale transactions by others. The underwriters or agents may also use the securities purchased or borrowed from us or others (or, in the case of derivatives, securities received from us in settlement of those derivatives) to directly or indirectly settle sales of the securities or close out any related open borrowings of the securities.

Electronic Auctions

We may also make sales through the Internet or through other electronic means. Since we may from time to time elect to offer securities directly to the public, with or without the involvement of agents, underwriters or dealers, utilizing the Internet or other forms of electronic bidding or ordering systems for the pricing and allocation of such securities, you will want to pay particular attention to the description of that system we will provide in a prospectus supplement.

Such electronic system may allow bidders to directly participate, through electronic access to an auction site, by submitting conditional offers to buy that are subject to acceptance by us, and which may directly affect the price or other terms and conditions at which such securities are sold. These bidding or ordering systems may present to each bidder, on a so-called “real-time” basis, relevant information to assist in making a bid, such as the clearing spread at which the offering would be sold, based on the bids submitted, and whether a bidder’s individual bids would be accepted, prorated or rejected.

Upon completion of such an electronic auction process, securities will be allocated based on prices bid, terms of bid or other factors. The final offering price at which securities would be sold and the allocation of securities among bidders would be based in whole or in part on the results of the Internet or other electronic bidding process or auction.

General Information

Agents, underwriters, and dealers may be entitled, under agreements entered into with us, to indemnification by us against certain liabilities, including liabilities under the Securities Act. Our agents, underwriters, and dealers, or their affiliates, may be customers of, engage in transactions with or perform services for us, in the ordinary course of business.

The maximum consideration or discount to be received by any Financial Industry Regulatory Authority, or FINRA, member or independent broker dealer may not exceed 8.0% of the aggregate amount of the securities offered pursuant to this prospectus and any applicable prospectus supplement.

LEGAL MATTERS

Michael Best & Friedrich LLP, Madison, Wisconsin will pass for us upon the validity of the securities being offered by this prospectus and applicable prospectus supplement, and counsel named in the applicable prospectus supplement will pass upon legal matters for any underwriters, dealers or agents.

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 Baker Tilly Virchow Krause, LLP, independent registered public accountants, upon the authority of said firm as experts in accounting and auditing.

WHERE YOU CAN FIND ADDITIONAL INFORMATION

We file annual, quarterly and current reports, proxy statements and other information with the SEC. We have also filed a registration statement on Form S-3, including exhibits, under the Securities Act with respect to the securities offered by this prospectus. This prospectus is part of the registration statement, but does not contain all of the information included in the registration statement or the exhibits. You may read and copy the registration statement and any other document that we file with the SEC at the SEC’s Public Reference Room at 100 F Street, N.E., Washington, D.C. 20549. Please call the SEC at 1-800-SEC-0330 for further information on the Public Reference Room. Our SEC filings are also available to the public on the internet at a website maintained by the SEC located at <http://www.sec.gov>.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

We disclose important information to you by referring you to documents that we have previously filed with the SEC or documents that we will file with the SEC in the future. The information incorporated by reference is considered to be part of this prospectus, and information in documents that we file later with the SEC will automatically update and supersede information in this prospectus. We incorporate by reference the documents listed below into this prospectus, and any future filings made by us with the SEC under Section 13(a), 13(c), 14 or 15(d) of the Exchange Act until the termination of this offering, including all filings made after the date of the initial registration statement and prior to the effectiveness of the registration statement. We hereby incorporate by reference the following documents):

- our Annual Report on Form 10-K for the fiscal year ended December 31, 2016, filed with the SEC on March 15, 2017;
- our Quarterly Report on Form 10-Q for the quarterly period ended March 31, 2017, filed with the SEC on May 11, 2017;
- our Definitive Proxy Statement on Schedule 14A, filed with the SEC on April 24, 2017;
- our Current Report on Form 8-K, filed with the SEC on February 3, 2017;
- our Current Report on Form 8-K, filed with the SEC on April 11, 2017;
- our Current Report on Form 8-K, filed with the SEC on June 1, 2017;
- our Current Report on Form 8-K, filed with the SEC on August 18, 2017;
- our Current Report on Form 8-K, filed with the SEC on September 12, 2017; 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.

You should rely only on the information contained in this prospectus, as updated and supplemented by any prospectus supplement, or that information to which this prospectus or any prospectus supplement has referred you by reference. We have not authorized anyone to provide you with any additional information.

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

You may request and obtain a copy of any of the filings incorporated herein by reference, at no cost, by writing or telephoning us at the following address or phone number:

Collectar Biosciences, Inc., 3301 Agriculture Drive, Madison, WI 53716, Attention: Chief Financial Officer (608) 441-8120.

CELLECTAR BIOSCIENCES, INC.

\$50,000,000

Common Stock

Preferred Stock

Warrants

Units

Subscription Rights

PROSPECTUS

September 20, 2017