

PROSPECTUS



Artelo Biosciences, Inc.

UP TO 9,820,294 SHARES OF COMMON STOCK

This prospectus relates to the offer and resale from time to time of:

- 81,000 shares of common stock, par value \$0.001 per share (the "Common Stock"), of Artelo Biosciences, Inc., a Nevada corporation (the "Company"), held by Intracoastal Capital LLC, a Delaware limited liability company ("Intracoastal"), issued to Intracoastal, pursuant to the securities purchase agreement, dated as of March 27, 2026 (the "Purchase Agreement"), by and among the Company, Intracoastal and Armistice Capital Master Fund Ltd., a Cayman Islands exempted company ("Master Fund");
- up to 3,107,407 shares of Common Stock by Intracoastal and Master Fund issuable upon the exercise of pre-funded warrants at an exercise price of \$0.001 per share (the "Pre-Funded Warrants") issued to Intracoastal and Master Fund pursuant to the Purchase Agreement;
- up to 6,376,814 shares of Common Stock by Intracoastal and Master Fund issuable upon the exercise of warrants at an exercise price of \$3.20 per share (the "Common Warrants" and together with the Pre-Funded Warrants, the "Warrants") issued to Intracoastal and Master Fund pursuant to the Purchase Agreement; and
- up to 255,073 shares of Common Stock by the designees (or their assignees) (the "Designees" and together with Intracoastal and Master Fund, the "Selling Stockholders") of H.C. Wainwright & Co., LLC, the exclusive placement agent in connection with the Purchase Agreement (the "Placement Agent"), issuable upon the exercise of warrants at an exercise price of \$4.3125 per share (the "Placement Agent Warrants") issued to the Designees in connection with the Purchase Agreement.

The Common Warrants may only be exercised on a cashless basis if, after six months from the issuance date of the Common Warrants, there is no registration statement registering, or the prospectus contained therein is not available for, the resale of the shares of Common Stock underlying the Common Warrants to the holder. A holder of a Warrant may not exercise any such Warrant to the extent that such exercise would result in the number of shares of Common Stock beneficially owned by such holder and its affiliates exceeding 4.99% or 9.99% (at the election of the holder) of the total number of shares of Common Stock outstanding immediately after giving effect to the exercise, which percentage may be increased or decreased at the holder's election not to exceed 9.99% (the "Beneficial Ownership Limitation"). The Placement Agent Warrants have substantially the same terms as the Common Warrants, other than the exercise price.

We are not selling any securities under this prospectus and will not receive any of the proceeds from the sales of our Common Stock by the Selling Stockholders. However, we may receive up to \$21,508,908.56 in aggregate gross proceeds from the cash exercise of the Warrants and the Placement Agent Warrants. See the sections of this prospectus entitled "*Use of Proceeds*" and "*Selling Stockholders*" for additional information.

The Selling Stockholders may sell or otherwise dispose of our Common Stock described in this prospectus in a number of different ways and at varying prices. The Selling Stockholders may be deemed to be "underwriters" within the meaning of Section 2(a)(11) of the Securities Act of 1933, as amended (the "Securities Act") in connection with such sales. See "*Plan of Distribution*" for more information about how the Selling Stockholders may sell or otherwise dispose of our Common Stock pursuant to this prospectus.

We will pay the expenses incurred in registering under the Securities Act the offer and sale of our Common Stock to which this prospectus relates by the Selling Stockholders, including legal and accounting fees. See "*Plan of Distribution*."

Our shares of Common Stock are currently listed on The Nasdaq Capital Market tier of The Nasdaq Stock Market LLC ("Nasdaq") under the symbol "ARTL." On April 15, 2026, the closing sale price of shares of our Common Stock was \$5.31.

You should read this prospectus, together with additional information described under the heading "*Where You Can Find More Information*" carefully before you invest in any of our securities.

We are a "smaller reporting company" as defined under the federal securities laws and, as such, we may continue to elect to comply with certain reduced public company reporting requirements in future reports.

Investing in our securities involves a high degree of risk. See "*Risk Factors*" beginning on page 8 of this prospectus and in the other documents that are incorporated by reference into this prospectus before purchasing any of the shares offered by this prospectus.

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 April 15, 2026.

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ABOUT THIS PROSPECTUS

As used in this prospectus, unless the context otherwise requires or indicates, references to “the Company,” “we,” “our,” “ourselves,” “us” and “Artelo” refer to Artelo Biosciences, Inc.

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (the “SEC”), under which the Selling Stockholders may, from time to time, sell the securities described in this prospectus in one or more offerings or otherwise described under “*Plan of Distribution*.” We will not receive any proceeds from the sale by the Selling Stockholders of the securities offered by them described in this prospectus.

We may also file a prospectus supplement or post-effective amendment to the registration statement of which this prospectus forms a part that may contain material information relating to these offerings. Such prospectus supplement or post-effective amendment may also add, update or change information contained in this prospectus with respect to that offering. If there is any inconsistency between the information in this prospectus and the applicable prospectus supplement or post-effective amendment, you should rely on the prospectus supplement or post-effective amendment, as applicable. Before purchasing any securities, you should carefully read this prospectus, any post-effective amendment, and any applicable prospectus supplement, together with the additional information described under the headings “*Where You Can Find More Information*” and “*Incorporation by Reference*.”

Neither we, nor the Selling Stockholders, have authorized anyone to provide you with any information or to make any representations other than those contained in this prospectus, any post-effective amendment, or any applicable prospectus supplement prepared by or on behalf of us or to which we have referred you. We and the Selling Stockholders take no responsibility for, and can provide no assurance as to the reliability of, any other information that others may give you. The Selling Stockholders will not make an offer to sell these securities in any jurisdiction where the offer or sale is not permitted. You should assume that the information appearing in this prospectus, any post-effective amendment and any applicable prospectus supplement to this prospectus is accurate only as of the date on its respective cover and that any information incorporated by reference is accurate only as of the date of the document incorporated by reference or, in each case, any earlier date specified for such information, unless we indicate otherwise. Our business, financial condition, results of operations and prospects may have changed since those dates. To the extent there is a conflict between the information contained in this prospectus, on the one hand, and the information contained in any document incorporated by reference filed with the SEC before the date of this prospectus, on the other hand, you should rely on the information in this prospectus. If any statement in a document incorporated by reference is inconsistent with a statement in another document incorporated by reference having a later date, the statement in the document having the later date modifies or supersedes the earlier statement.

This prospectus incorporates by reference, and any post-effective amendment or any prospectus supplement may contain or incorporate by reference, market data and industry statistics and forecasts that are based on independent industry publications and other publicly available information. Although we believe these sources are reliable, we have not independently verified this information, and we are responsible for all information contained in this prospectus. In addition, the market and industry data and forecasts that may be included or incorporated by reference in this prospectus, any post-effective amendment or any prospectus supplement may involve estimates, assumptions and other risks and uncertainties and are subject to change based on various factors, including those discussed under the heading “*Risk Factors*” contained in this prospectus, any post-effective amendment and any applicable prospectus supplement, and under similar headings in other documents that are incorporated by reference into this prospectus. Accordingly, investors should not place undue reliance on this information.

This prospectus contains summaries of certain provisions contained in some of the documents described herein, but reference is made to the actual documents for complete information. All of the summaries are qualified in their entirety by the actual documents. Copies of some of the documents referred to herein have been filed, will be filed or will be incorporated by reference as exhibits to the registration statement of which this prospectus is a part, and you may obtain copies of those documents as described below under the section entitled “*Where You Can Find More Information*.”

This prospectus contains forward-looking statements that are subject to a number of risks and uncertainties, many of which are beyond our control. Please read “*Cautionary Note Regarding Forward- Looking Statements*” and “*Risk Factors*.”

SUMMARY

This summary is not complete and does not contain all of the information that you should consider before investing in the securities offered by this prospectus. You should read this summary together with the entire prospectus carefully, including "Risk Factors" and our financial statements and the related notes incorporated by reference into this prospectus, before making an investment decision. See "Risk Factors" for a discussion of the risks involved in investing in our securities.

Corporate Overview

We incorporated in the State of Nevada on May 2, 2011, and are presently based in the County of San Diego, California. We are a clinical stage biopharmaceutical company focused on the development and commercialization of therapeutics that target lipid-signaling modulation pathways, including the endocannabinoid system (the "ECS"), a network of receptors and neurotransmitters that form a biochemical communication system throughout the body.

Our product candidate pipeline broadly leverages leading scientific methodologies and balances risk across mechanisms of action and stages of development. Our programs represent a comprehensive approach in utilizing the power and promise of lipid signaling to develop pharmaceuticals for patients with unmet healthcare needs.

We are currently developing a novel, benzimidazole dual cannabinoid (CB) agonist that targets both the CB1 and CB2 peripheral receptors. This synthetic small molecule program is a G protein-coupled receptor ("GPCR") designated ART27.13 and was initially developed by AstraZeneca plc. We are developing ART27.13 as a potential treatment for cancer-related anorexia and it is currently in a Phase 1b/2a trial, titled the Cancer Appetite Recovery Study ("CAREs"). In an interim analysis of the on-going Phase 2a CAREs trial, patients with cancer anorexia receiving ART27.13 demonstrated a mean weight gain of over 6% compared to a 5% loss in the placebo group, while maintaining a safety profile similar to the Phase 1b despite doses up to twice the previous maximum. Currently there is no FDA approved treatment for cancer anorexia cachexia syndrome.

Our second program, ART26.12 is a small molecule and the lead product candidate from our chemical library of inhibitors of fatty acid binding proteins, notably Fatty Acid Binding Protein 5 ("FABP5"). We received U.S. Food & Drug Administration (the "FDA") clearance for our Investigational New Drug ("IND") application for ART26.12 in July 2024 and have completed enrolment to a Phase 1 clinical trial in healthy subjects to support the development towards an agent intended to treat chemotherapy-induced peripheral neuropathy ("CIPN"). In addition, ART26.12 may have broad applications as a cancer therapeutic, as a treatment for dermatologic conditions, such as psoriasis, as a treatment for pain and inflammation, and potential use in anxiety-related disorders, including post-traumatic stress disorder. In June 2025, we announced favorable results from our first-in-human study evaluating ART26.12. The Phase 1 Single Ascending Dose (SAD) study was designed to assess the safety, tolerability, and pharmacokinetics of ART26.12 in healthy volunteers and enrolled 49 subjects. All adverse events (AEs) were mild, transient, and self-resolving. No drug-related AEs were observed in the blinded dataset, and no tolerability issues or safety signals were detected across multiple assessments (vital signs, ECGs, clinical laboratory tests, physical examinations, and visual analogue mood scales). In addition, full dose-exposure profiles were successfully explored. Plasma analysis confirmed dose-dependent, linear absorption across the evaluated range. A wide safety margin was observed between estimated therapeutic plasma concentrations and the highest exposure levels achieved, supporting potential titration for maximum efficacy in future studies. In addition to ART26.12 in CIPN, our extensive library of small molecule inhibitors of Fatty Acid Binding Proteins ("FABPs") has shown therapeutic potential for the treatment of certain cancers, neuropathic and nociceptive pain, psoriasis, and anxiety disorders.

ART12.11 is our wholly owned, proprietary cocrystal composition of cannabidiol (CBD) and tetramethylpyrazine (TMP). Isolated as a single crystalline form, ART12.11 has exhibited better pharmacokinetics and improved efficacy compared to other forms of CBD in nonclinical studies. Greatly enhanced pharmaceutical properties, including physicochemical, pharmacokinetic, and pharmacodynamic advantages have been observed with ART12.11. We believe a more consistent and improved bioavailability profile may ultimately lead to increased safety and efficacy in humans, thus making ART12.11 a preferred CBD pharmaceutical composition. The U.S. issued composition of matter patent for ART12.11 is enforceable until December 10, 2038 and has now been granted or validated in 21 additional countries.

We obtained two of our patent protected product candidates through our in-licensing activities. Our first in-licensed program, ART27.13, is being developed for cancer-related anorexia. ART27.13 is a peripherally-selective high-potency dual CB1 and CB2 full-receptor agonist, which was originally invented at AstraZeneca plc. We exercised our option to exclusively license this product candidate through the NEOMED Institute (“NEOMED”), a Canadian not-for-profit corporation, renamed adMare Bioinnovations (“adMare”) in June 2019, which had obtained rights to ART27.13 from AstraZeneca plc. In Phase 1, single dose studies in healthy volunteers and a multiple ascending dose study in individuals with chronic low back pain conducted by AstraZeneca plc, ART27.13 exhibited an attractive pharmacokinetic and absorption, distribution, metabolism, and excretion profile and was well tolerated within the target exposure range. It also exhibited dose-dependent and potentially clinically meaningful increases in body weight. Importantly, the changes in body weight were not associated with fluid retention or other adverse effects and occurred at exposures without central nervous system (“CNS”) side effects. Discussions with United Kingdom (“UK”), U.S. and Canadian regulators indicated there is a potential pathway for development of ART27.13 for the treatment of cancer-related anorexia, which affects approximately 60% of advanced stage cancer patients.

We commenced enrollment and dosed the first patient in CAREs, our Phase 1b/2a clinical study of cancer-related anorexia with ART27.13 in April 2021 and completed enrolling patients in the Phase 1b during the first quarter of 2023. Data from the Phase 1b stage was used to determine the most effective and safe dose selected as the starting dose for the Phase 2a portion of CAREs. We received approval from the regulatory authorities in the UK, Ireland and Norway to increase the daily dose from the starting dose of 650 micrograms to 1,000 micrograms after 4 weeks and up to 1,300 micrograms initiated at 8 weeks in patients for whom intra-patient dose escalation is expected to be well tolerated. We also received approval from the regulatory authorities to enroll 40 evaluable patients into the Phase 2a stage with a 3:1 randomization of ART27.13 to placebo. We initiated the Phase 2a portion of CAREs during April 2023 with 18 clinical sites across five countries.

As of December 31, 2025, 32 participants have been enrolled. On September 3, 2025, we announced interim results from the Phase 2a CAREs trial. In the interim analysis, 18 evaluable patients—primarily with lung and gastrointestinal cancers not receiving cyclic chemotherapy—were included. After 12 weeks of treatment in patients who were titrated to the top dose evaluated of 1300 micrograms (n=5), ART27.13 demonstrated compelling increases in mean body weight of 6.38% (Standard Deviation or SD 9.50) compared to patients on placebo (n=6) who lost -5.42% (SD 8.17). The maximum weight gain in the ART27.13 group reached 18.5%, versus only 0.4% in placebo. The maximum weight loss in the placebo arm was -17.4%, compared to just -3.0% in the ART27.13 group. Additional benefits were seen in lean body mass, with a +4.23% increase (SD 5.37) in the treatment group versus a -3.15% loss (SD 4.89) in placebo at one month, as well as qualitative improvements in total and weekly activity scores.

Safety results were consistent with prior findings. Among the 32 participants enrolled in the CAREs Phase 2 trial to date, 7 patients (22%) experienced adverse events that may be related to ART27.13. All were mild or moderate, with the exception of a single case of severe malaise, and no drug-related serious adverse events were reported. These data are aligned with safety outcomes observed in Phase 1 of CAREs, supporting ART27.13’s overall favorable tolerability and acceptable safety profile.

Our second in-licensed patented program is being advanced from our platform of small-molecule inhibitors of FABPs, notably FABP5. FABPs are attractive therapeutic targets, however, the high degree of sequence and structural similarities among family members made the creation of drugs targeting specific FABPs challenging. FABP5 is believed to specifically target and regulate one of the body’s endogenous cannabinoids, anandamide (“AEA”). While searching for a FABP5 inhibitor to regulate AEA, researchers at Stony Brook University (“SBU”) discovered the chemistry for creating a large library of compounds which we believe to be highly specific and potent small molecule inhibitors of FABP5 and other isoforms. We licensed the rights to world-wide intellectual property in all fields and certain know-how to these inhibitors from SBU.

Our lead FABP5 inhibitor program is designated ART26.12. Preclinical research with ART26.12 showed evidence of activity in multiple pain models including osteoarthritis, cancer bone pain, and neuropathic pain. Based upon positive preclinical evidence from five separate studies showing promising activity and a differentiated mechanism-of-action for the prevention and treatment of painful neuropathies, including diabetic neuropathy and CIPN, we prioritized CIPN as the initial indication for development of ART26.12. Treatment and/or prevention of CIPN is a significant unmet need, often resulting in anti-cancer treatment delays or discontinuations, and there are currently no approved treatments for CIPN by the regulatory authorities in the U.S., UK or EU. We submitted an IND application for ART26.12 to the FDA on June 10, 2024 and received a study may proceed notice from the FDA on July 8, 2024. First-in-human studies for ART26.12 began in Q4 of 2024 and we successfully completed dosing all 48 healthy volunteers planned for the Phase 1 Single Ascending Dose study at the end of April 2025. In addition to its potential as a synthetic endocannabinoid modulator with development targeting pain, inflammation, dermatologic conditions such as psoriasis, FABP5 is understood to play an important role in lipid signaling and is believed to be an attractive strategy for drug development in oncology. Large amounts of human biomarker and animal model data support FABP5 as an oncology target, including triple negative breast cancer, ovarian cancer, cervical cancer, and castration-resistant prostate cancer. Through our sponsored research we have also subsequently identified a potential role for FABP5 inhibition to treat anxiety disorders, such as Post Traumatic Stress Disorder (“PTSD”). We have been awarded a research grant in Canada to expand on our earlier research at the University of Western Ontario in this new development area.

In addition to our in-licensed programs, we have internal discovery research initiatives which resulted in ART12.11, a proprietary cocrystal composition of CBD and TMP. The crystal structure of CBD is known to exhibit solid polymorphism, or the ability to manifest in different forms. Polymorphism can adversely affect stability, dissolution, and bioavailability of a drug product and thus may affect its quality, safety, and efficacy. Based upon our research, we believe our CBD cocrystal exists as a single crystal form and as such is anticipated to have advantages over other solid forms of CBD that exhibit polymorphism. Emerging data demonstrates potential advantages of this single crystal structure, including improved stability, solubility, and a more consistent absorption profile. We believe these features have contributed to a more consistent and improved bioavailability and pharmacokinetic profile which may ultimately lead to improved safety and efficacy in human therapeutics, as already demonstrated in animal studies.

Presently, we have two U.S. patents, one pending U.S. patent application, six foreign patents (Australia, Brazil, China, Mexico, Japan and Taiwan) and three pending foreign patent applications (Canada, Europe, and South Korea) directed to our cocrystal composition of CBD. Composition claims are generally known in the pharmaceutical industry as the most desired type of intellectual property and should provide for long lasting market exclusivity for our synthetic CBD cocrystal drug product candidate. In addition, due to the reasons outlined above, we believe that our synthetic CBD cocrystal will continue to demonstrate a superior set of pharmaceutical properties compared to non-cocrystal CBD compositions. We plan to develop ART12.11 for multiple potential indications where CBD has shown activity of such anxiety disorders, including PTSD, depression, and other possible uses such as epilepsy and insomnia.

We are developing our product candidates in accordance with traditional regulated drug development standards and expect to make them available to patients via prescription or physician orders only after obtaining marketing authorization from a country’s regulatory authority, such as the FDA. Our management team has experience developing, commercializing, and partnering ethical pharmaceutical products, including several first-in-class therapeutics. Based upon our current management’s capabilities and the future talent we may attract, we plan to retain rights to internally develop and commercialize products; however, we may seek collaborations with partners in the biopharmaceutical industry when a partnering strategy serves to maximize value for our stockholders.

Risk Factor Summary

Investing in our securities involves a high degree of risk. You should carefully consider the risks described in the section entitled “*Risk Factors*” below, as well as other information and risk factors included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2025, as updated or supplemented on our Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, including our financial statements and the related notes, and the section titled “*Management’s Discussion and Analysis of Financial Condition and Results of Operations*,” any of which may be relevant to decisions regarding an investment in or ownership of our securities. The occurrence of any of these risks could have a significant adverse effect on our reputation, business, financial condition, results of operations, growth and ability to accomplish our strategic objectives. We have organized the description of these risks into groupings in an effort to enhance readability, but many of the risks interrelate or could be grouped or ordered in other ways, so no special significance should be attributed to the groupings or order.

Risks Related to This Offering

- Substantial future sales or issuances of our Common Stock or securities convertible into, or exercisable or exchangeable for, our Common Stock, or the perception in the public markets that these sales or issuances may occur, may depress our stock price. Also, future issuances of our Common Stock or rights to purchase Common Stock could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.
- Investors who buy shares at different times will likely pay different prices.
- Our management team will have broad discretion over the use of the net proceeds from the cash exercise of the Warrants and the Placement Agent Warrants, if any, and investors may not agree with how we use the proceeds and the proceeds may not be invested successfully.

March 2026 Private Placement Offering

On March 27, 2026, we entered into the Purchase Agreement with Intracoastal and Master Fund, pursuant to which the Company agreed to issue and sell, in a private placement offering (the “Offering”): (i) 81,000 shares of Common Stock, (ii) Pre-Funded Warrants to purchase 3,107,407 shares of Common Stock at an exercise price of \$0.001 per share, and (iii) Common Warrants to purchase 6,376,814 shares of Common Stock at an exercise price of \$3.20 per share. Each share of Common Stock or Pre-Funded Warrant was issued and sold along with two Common Warrants. The combined purchase price for the securities was (i) \$3.45 per share of Common Stock and two Common Warrants, and (ii) \$3.449 per Pre-Funded Warrant and two Common Warrants. The Offering closed on March 30, 2026.

The Pre-Funded Warrants are exercisable immediately and may be exercised at any time until all of the Pre-Funded Warrants are exercised in full, subject to the Beneficial Ownership Limitation. The Common Warrants are exercisable immediately and have a term of five and one-half years from the effective date of the Initial Registration Statement (as defined below), subject to the Beneficial Ownership Limitation.

The Common Warrants may only be exercised on a cashless basis if, after six months from the issuance date of the Common Warrants, there is no registration statement registering, or the prospectus contained therein is not available for, the resale of the shares of Common Stock underlying the Common Warrants to the holder. A holder of a Warrant may not exercise any such Warrant to the extent that such exercise would result in the number of shares of Common Stock beneficially owned by such holder and its affiliates exceeding the applicable Beneficial Ownership Limitation.

The Purchase Agreement contains customary representations, warranties and agreements by the Company, indemnification obligations of the Company, and other obligations of the parties. The representations, warranties and covenants contained in the Purchase Agreement were made only for purposes of such Purchase Agreement and are made as of specific dates; are solely for the benefit of the parties (except as specifically set forth therein); may be subject to qualifications and limitations agreed upon by the parties in connection with negotiating the terms of the Purchase Agreement, instead of establishing matters as facts; and may be subject to standards of materiality and knowledge applicable to the contracting parties that differ from those applicable to investors generally. Investors should not rely on the representations, warranties and covenants or any description thereof as characterizations of the actual state of facts or condition of the Company.

Concurrently with the execution of the Purchase Agreement, the Company, Intracoastal, and Master Fund also entered into a Registration Rights Agreement (the “Registration Rights Agreement”), pursuant to which the Company agreed to file with the SEC a registration statement within fifteen (15) calendar days of the Registration Rights Agreement, and to have such registration statement declared effective by the SEC within forty-five (45) calendar days of the Registration Rights Agreement (or seventy-five (75) calendar days in the event of a “full review” by the SEC) (the “Initial Registration Statement”), to register under the Securities Act, the offer and resale by the Selling Stockholders of all the shares of Common Stock sold in the Offering and all of the shares of Common Stock underlying the Warrants sold in the Offering (collectively, the “Registrable Securities”). The Company must also file one or more additional registration statements for the resale of the Registrable Securities if necessary.

H.C. Wainwright & Co., LLC acted as exclusive placement agent in connection with the Offering and received a cash fee equal to 8.0% of the aggregate gross proceeds and reimbursement of certain expenses. Upon the exercise for cash of the Warrants, the Company shall pay the Placement Agent a cash fee of 8.0% of the aggregate gross exercise price paid in cash with respect thereto. In addition, the Company issued to the Designees the Placement Agent Warrants to purchase up to 255,073 shares of Common Stock at an exercise price of \$4.3125 per share, which have substantially the same terms as the Common Warrants, other than the exercise price.

The gross proceeds from the Offering, before deducting Placement Agent fees and other offering expenses payable by the Company, were \$10,996,902.70 (or up to approximately \$31.4 million in gross proceeds if the Warrants are fully exercised for cash). The net proceeds of \$10,031,902.37 from the Offering will be used for working capital, general corporate purposes and the repayment of certain bridge debt.

Recent Developments

We reconvened our Annual Meeting of Stockholders (the “Annual Meeting”) on January 30, 2026, which was previously convened on December 31, 2025, and then adjourned, without conducting any business, due to insufficient votes to constitute a quorum. Of the 673,008 shares of our Common Stock, outstanding as of the record date of December 10, 2025, 339,272 shares of Common Stock were represented at the Annual Meeting, either by proxy or by attending the virtual annual meeting, constituting, of the shares entitled to vote, approximately 50.4% of the outstanding shares of Common Stock.

On February 2, 2026, Nasdaq’s Hearings Panel granted us an exception to cure our continued listing deficiencies, requiring that we regain compliance with Nasdaq Listing Rule 5550(b)(1) (stockholders’ equity of at least \$2,500,000) by March 30, 2026, and cure our 2025 annual meeting deficiency under Nasdaq Listing Rule 5620(a). The 2025 annual meeting deficiency was cured as described above. On April 6, 2026, we received a letter from Nasdaq confirming that we have regained compliance with the Nasdaq Listing Rules. Pursuant to Nasdaq Listing Rule 5815(d)(4)(B), we are subject to a Mandatory Panel Monitor through April 6, 2027, which is one year from the date of the compliance letter.

On March 5, 2026, we filed with the Secretary of State of the State of Nevada a Certificate of Change (the “Certificate of Change”), pursuant to Nevada Revised Statutes 78.209, to effect a one-for-three (1-for-3) reverse stock split (the “Reverse Split”) of the Company’s issued and outstanding common stock. The Reverse Split was effective as of 12:01 a.m. Eastern Time on March 10, 2026 (March 9, 2026, at 9:01 p.m. Pacific Time) (the “Effective Time”). As a result of the Reverse Split, each three (3) pre-split shares of common stock outstanding automatically combined into one (1) new share of common stock without any action on the part of the holders, and the number of outstanding shares of common stock was reduced from 2,124,772 to approximately 736,127. The number of authorized shares of common stock was reduced from 500,000,000 to 166,666,667, while the number of authorized shares of preferred stock was reduced from 69,444 to 23,148. The common stock par value of \$0.001 per share remained unchanged after the Reverse Split. The Reverse Split was effected in order to improve the marketability and liquidity of the Company’s common stock.

On March 12, 2026, we entered into a securities purchase agreement with Vanquish Funding Group Inc., pursuant to which we issued a 12% bridge note that matures on January 15, 2027, in the aggregate principal amount of \$237,300, which includes an original issue discount of \$27,300, for an aggregate purchase price of \$210,000. Solely upon the occurrence and continuation of an Event of Default (as defined in the bridge note), the buyer shall have the right, but not the obligation, to convert all or any portion of the outstanding balance of the bridge note, including principal, accrued interest, and any applicable default amount, into shares of our common stock. The conversion price is the greater of (i) \$0.125 and (ii) 75% of the lowest trading price of our common stock during the ten (10) trading days immediately preceding the applicable conversion date. This bridge note was paid off in full on April 2, 2026; no Events of Default occurred.

On March 12, 2026, we entered into a securities purchase agreement with Boot Capital LLC, pursuant to which we issued a 12% bridge note that matures on January 15, 2027, in the aggregate principal amount of \$113,000, which includes an original issue discount of \$13,000, for an aggregate purchase price of \$100,000. Solely upon the occurrence and continuation of an Event of Default (as defined in the bridge note), the buyer shall have the right, but not the obligation, to convert all or any portion of the outstanding balance of the bridge note, including principal, accrued interest, and any applicable default amount, into shares of our common stock. The conversion price is the greater of (i) \$0.125 and (ii) 75% of the lowest trading price of our common stock during the ten (10) trading days immediately preceding the applicable conversion date. This bridge note was paid off in full on April 2, 2026; no Events of Default occurred.

On March 20, 2026, we entered into a securities purchase agreement with Labrys Fund II, L.P., pursuant to which we issued a 10% promissory note that matures 12 months from the date of issuance, in the aggregate principal amount of \$315,000, which includes an original issue discount of \$15,000, for an aggregate purchase price of \$300,000. The buyer shall have the right to convert all or any portion of the outstanding balance of the promissory note, including principal, accrued interest, and any applicable default amount, into shares of our common stock at any time on or following the earlier of (i) 180 calendar days after the date of issuance or (ii) the date that any of the conversion shares are registered for resale. The conversion price shall be equal to 75% of the average of the two lowest closing bid prices for the common stock during the 10-trading day period ending on the latest complete trading day prior to the date of conversion. This promissory note was paid off in full on April 3, 2026; no events of default occurred nor were any conversion elections made.

Corporate Information

We were incorporated in the State of Nevada on May 2, 2011, as Knight Knox Development Corp. On January 19, 2017, we changed our name to Reactive Medical, Inc. and on April 14, 2017, we changed our name to Artelo Biosciences, Inc. Our principal executive office is located at 505 Loma Santa Fe, Suite 160, Solana Beach, California 92075 and our telephone number is (858) 925-7049. Our corporate website address is www.artelobio.com. Information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus, and you should not consider information on our website to be part of this prospectus.

Implications of Being a Smaller Reporting Company

Additionally, we are a “smaller reporting company” as defined in Rule 10(f)(1) of Regulation S-K. Smaller reporting companies may take advantage of certain reduced disclosure obligations, including, among other things, providing only two years of audited financial statements. We will remain a smaller reporting company until the last day of the fiscal year in which (1) the market value of our Common Stock held by non-affiliates equals or exceeds \$250 million as of the end of that year’s second fiscal quarter, or (2) our annual revenues equaled or exceeded \$100 million during such completed fiscal year and the market value of our Common Stock held by non-affiliates equals or exceeds \$700 million as of the end of that year’s second fiscal quarter.

The Offering

Shares of Common Stock Offered by the Selling Stockholders	Up to 9,820,294 shares of Common Stock, consisting of (i) 81,000 shares of Common Stock by Intracoastal, (ii) up to 3,107,407 shares of Common Stock by Intracoastal and Master Fund issuable upon exercise of the Pre-Funded Warrants, (iii) up to 6,376,814 shares of Common Stock by Intracoastal and Master Fund issuable upon exercise of the Common Warrants, and (iv) up to 255,073 share of Common Stock by the Designees issuable upon the exercise of the Placement Agent Warrants.
Use of proceeds	We will not receive any proceeds from any sale of the shares being offered for sale by the Selling Stockholders. However, we may receive up to \$21,508,908.56 in aggregate gross proceeds from the cash exercise of the Warrants and the Placement Agent Warrants. See “ <i>Use of Proceeds</i> ” for additional information.
Dividend policy	We have never declared or paid any cash dividends on our shares of Common Stock. We do not anticipate paying any cash dividends in the foreseeable future.
Risk factors	You should carefully consider the risk factors described in the section of this prospectus entitled “ <i>Risk Factors</i> ,” together with all of the other information included in this prospectus, before deciding to purchase our shares of Common Stock.
Market and trading symbol	Our shares of Common Stock are traded on The Nasdaq Capital Market tier of Nasdaq under the symbol “ARTL.”

RISK FACTORS

An investment in our securities involves a high degree of risk. Our business, financial condition or results of operations could be materially and adversely affected by any of these risks. If any of these risks occur, the value of our shares of Common Stock and our other securities may decline. Before making your investment decision, you should carefully consider the risks together with all of the other information contained or incorporated by reference in this prospectus, including any risks in the section entitled “*Risk Factors*” contained in any supplements to this prospectus, in our Annual Report on Form 10-K filed with the SEC on February 24, 2026, as updated or supplemented on our Quarterly Reports on Form 10-Q or Current Reports on Form 8-K, and in our subsequent filings with the SEC. Each of the referenced risks and uncertainties could adversely affect our business, operating results and financial condition, as well as adversely affect the value of an investment in our securities. Additional risks not known to us or that we believe are immaterial may also adversely affect our business, operating results and financial condition and the value of an investment in our securities. These disclosures reflect our beliefs and opinions as to factors that could materially and adversely affect us and our securities in the future. References to past events are provided by way of example only and are not intended to be a complete listing or a representation as to whether or not such factors have occurred in the past or their likelihood of occurring in the future.

Risks Related to This Offering

Substantial future sales or issuances of our Common Stock or securities convertible into, or exercisable or exchangeable for, our Common Stock, or the perception in the public markets that these sales or issuances may occur, may depress our stock price. Also, future issuances of our Common Stock or rights to purchase Common Stock could result in additional dilution of the percentage ownership of our stockholders and could cause our stock price to fall.

The conversion or exercise of our outstanding convertible or exercisable securities and resale of the underlying Common Stock, and any other future issuances of our Common Stock or securities convertible into, or exercisable or exchangeable for, our Common Stock, would result in a decrease in the ownership percentage of existing stockholders, i.e., dilution, which may cause the market price of our Common Stock to decline. We cannot predict the effect, if any, of future issuances, conversions, or exercises of our securities, on the price of our Common Stock. In all events, future issuances of our Common Stock would result in the dilution of your holdings. In addition, the perception that new issuances of our securities are likely to occur, or the perception that holders of securities convertible or exercisable for Common Stock are likely to sell their securities, could adversely affect the market price of our Common Stock. The effect of such dilution may be magnified as to all shares that are not or may eventually not be subject to restrictions on resale as enumerated below.

If the Warrants and the Placement Agent Warrants are exercised in full, the Selling Stockholders would be issued 9,739,294 shares of Common Stock. As a result, there may be significant dilution to our stockholders’ ownership, voting power and right to participate in dividends or other payments from future earnings, if any, and may cause a decline in the market price of our Common Stock. Moreover, the Registration Statement, once effective, will allow such shares to be resold immediately into the public market without restriction, which may also adversely affect the market price of our Common Stock. A decline in our market price could also impair our ability to raise funds in additional equity or debt financings.

We also expect that significant additional capital may be needed in the future beyond that raised in this offering to continue our planned operations, including expanding research and development, hiring new personnel, and continuing activities as an operating public company. To the extent we raise additional capital by issuing equity securities, our stockholders may experience substantial dilution. We may sell Common Stock, convertible securities or other equity securities in one or more transactions at prices and in a manner we determine from time to time. If we sell Common Stock, convertible securities, or other equity securities in more than one transaction, investors may be materially diluted by subsequent sales. Such sales may also result in material dilution to our existing stockholders, and new investors could gain rights superior to our existing stockholders.

In the future, we may attempt to increase our capital resources by entering into additional debt or debt-like financing that is secured by all or up to all of our assets, or issuing debt or equity securities, which could include issuances of commercial paper, medium-term notes, senior notes, subordinated notes or shares. In the event of our liquidation, our lenders and holders of our debt securities would receive a distribution of our available assets before distributions to our stockholders. In addition, any preferred stock, if issued by our company, may have a preference with respect to distributions and upon liquidation, which could further limit our ability to make distributions to our stockholders. Because our decision to incur debt and issue securities in our future offerings will depend on market conditions and other factors beyond our control, we cannot predict or estimate the amount, timing or nature of our future offerings and debt financing.

In the event that the market price of shares of our Common Stock drops significantly when the restrictions on resale by our existing stockholders lapse, existing stockholders' dilution might be reduced to the extent that the decline in the price of shares of our Common Stock impedes our ability to raise capital through the issuance of additional shares of our Common Stock or other equity securities. However, in the event that our capital-raising ability is weakened as a result of a lower stock price, we may be unable to continue to fund our operations, which may further harm the value of our stock price.

Investors who buy shares at different times will likely pay different prices.

Investors who purchase shares in this offering at different times will likely pay different prices, and so may experience different levels of dilution and different outcomes in their investment results. The selling stockholders may sell the shares being offered by means of this prospectus at different times and at different prices.

Our management team will have broad discretion over the use of the net proceeds from the cash exercise of the Warrants and the Placement Agent Warrants, if any, and investors may not agree with how we use the proceeds and the proceeds may not be invested successfully.

Our management team will have broad discretion as to the use of the net proceeds from the cash exercise of the Warrants and the Placement Agent Warrants, if any, and we could use such proceeds for purposes other than those contemplated at the time of commencement of this offering. Accordingly, investors will be relying on the judgment of our management team with regard to the use of those net proceeds, and investors will not have the opportunity, as part of their investment decision, to assess whether the proceeds are being used appropriately. It is possible that, pending their use, we may invest those net proceeds in a way that does not yield a favorable, or any, return for us. The failure of our management team to use such funds effectively could have a material adverse effect on our business, financial condition, operating results and cash flows.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and the information incorporated by reference contains forward-looking statements that are based on our management's beliefs and assumptions and on information currently available. This section should be read in conjunction with our financial statements and related notes included in our Annual Report on Form 10-K for the year ended December 31, 2025, as updated on Form 8-K filed with the SEC on March 17, 2026. The statements contained or incorporated by reference in this prospectus that are not historical facts are forward-looking statements within the meaning of Section 27A of the Securities Act of 1933, as amended, and Section 21E of the Securities Exchange Act of 1934, as amended.

Forward-looking statements can be identified by words such as "believe," "anticipate," "may," "might," "can," "could," "continue," "depends," "expect," "expand," "forecast," "intend," "predict," "plan," "rely," "should," "will," "may," "seek," or the negative of these terms and other similar expressions, although not all forward-looking statements contain these words. You should read these statements carefully because they discuss future expectations, contain projections of future results of operations or financial condition, or state other "forward-looking" information. These statements relate to our future plans, objectives, expectations, intentions and financial performance and the assumptions that underlie these statements.

These forward-looking statements are subject to a number of risks, uncertainties, and assumptions, including, but not limited to, those described in "*Risk Factors*." These forward-looking statements reflect our beliefs and views with respect to future events and are based on estimates and assumptions as of the date of this prospectus and are subject to risks and uncertainties. We discuss many of these risks in greater detail in the section entitled "*Risk Factors*" and elsewhere in this prospectus, including the information incorporated by reference. Given these uncertainties, you should not place undue reliance on these forward-looking statements. We qualify all of the forward-looking statements in this prospectus by these cautionary statements. Except as required by law, we assume no obligation to update these forward-looking statements publicly, or to update the reasons actual results could differ materially from those anticipated in any forward-looking statements, whether as a result of new information, future events or otherwise.

In addition, statements that "we believe" and similar statements reflect our beliefs and opinions on the relevant subject. These statements are based upon information available to us as of the date of this prospectus, and although we believe such information forms a reasonable basis for such statements, such information may be limited or incomplete, and our statements should not be read to indicate that we have conducted a thorough inquiry into, or review of, all potentially available relevant information. These statements are inherently uncertain and investors are cautioned not to unduly rely upon these statements.

This prospectus and the information incorporated by reference also contains estimates, projections and other information concerning our industry, our business, and the markets for certain diseases, including data regarding the estimated size of those markets. Information that is based on estimates, forecasts, projections, market research or similar methodologies is inherently subject to uncertainties and actual events or circumstances may differ materially from events and circumstances reflected in this information. Unless otherwise expressly stated, we obtained this industry, business, market, and other data from reports, research surveys, studies, and similar data prepared by market research firms and other third parties, industry, medical and general publications, government data, and similar sources.

USE OF PROCEEDS

All shares of our Common Stock offered by this prospectus are being registered for resale by the Selling Stockholders identified herein. We will not receive any of the proceeds from the sale of the shares of Common Stock being offered for sale by the Selling Stockholders. We may receive up to \$21,508,908.56 in aggregate gross proceeds from the cash exercise of the Warrants and the Placement Agent Warrants, but not from the sale of the underlying shares of Common Stock.

The Selling Stockholders will pay any underwriting discounts and commissions and expenses incurred by them for brokerage, accounting, tax or legal services or any other expenses incurred by them in disposing of the shares. We will bear all other costs, fees and expenses incurred in effecting the registration of the shares covered by this prospectus, including, without limitation, all registration and filing fees and fees and expenses of our counsel and our accountants.

We expect to use any proceeds that we receive from the exercise of the Warrants and the Placement Agent Warrants for working capital, general corporate purposes and the repayment of certain bridge debt. As of the date of this prospectus, we cannot specify with certainty all of the particular uses, and the respective amounts we may allocate to those uses, for any net proceeds we receive. Accordingly, we will retain broad discretion over the use of these proceeds.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our Common Stock and do not anticipate paying any cash dividends on our Common Stock at any time in the foreseeable future. We currently intend to retain all available funds and any future earnings for use in the operation of our business and do not anticipate paying any dividends on our Common Stock in the foreseeable future. Any future determination to declare dividends will be made at the discretion of our board of directors and will depend on, among other factors, our financial condition, operating results, capital requirements, general business conditions, the terms of any future credit agreements and other factors that our board of directors may deem relevant. See the section captioned “*Management’s Discussion and Analysis of Financial Condition and Results of Operations*” contained in our Annual Report on Form 10-K and in our Quarterly Reports on Form 10-Q for additional information regarding our financial condition.

SELLING STOCKHOLDERS

This prospectus covers the resale or other disposition from time to time by the Selling Stockholders identified in the table below of up to 9,820,294 shares of our Common Stock, consisting of (i) 81,000 shares of Common Stock, (ii) up to 3,107,407 shares of Common Stock issuable upon exercise of the Pre-Funded Warrants, (iii) up to 6,376,814 shares of Common Stock issuable upon exercise of the Common Warrants, and (iv) up to 255,073 shares of Common Stock issuable upon exercise of the Placement Agent Warrants. We are registering the resale of such shares of Common Stock in order to permit the Selling Stockholders to offer the shares for resale from time to time.

Except for the ownership of the shares of Common Stock and the Warrants and the Placement Agent Warrants, the Selling Stockholders have not had any material relationship with us within the past three years. Except as disclosed below, the Selling Stockholders are not broker-dealers or an affiliate of a broker-dealer and have represented to us that they acquired the securities in the ordinary course of business and, at the time of acquisition, had no agreements or understandings, directly or indirectly, to distribute such securities.

The table below lists the Selling Stockholders and other information regarding the beneficial ownership (as determined under Section 13(d) of the Exchange Act, and the rules and regulations thereunder) of the shares of Common Stock held by each Selling Stockholder. The second column lists the number of shares of Common Stock beneficially owned by each Selling Stockholder as of April 15, 2026, without taking into account the applicable Beneficial Ownership Limitation. The third column lists the maximum number of shares of Common Stock being offered by this prospectus by the Selling Stockholders, without regard to any limitations on exercise, conversion or issuance. The fourth column assumes the sale of all of the shares offered by the Selling Stockholders pursuant to this prospectus.

Under the terms of the Warrants and the Placement Agent Warrants, the Selling Stockholders may not exercise such warrants to the extent that, after giving effect to such exercise, the Selling Stockholders, together with its affiliates and attribution parties, would beneficially own in excess of 4.99% or 9.99%, as applicable, of the number of shares of Common Stock outstanding immediately after giving effect to such exercise. The Pre-Funded Warrants are subject to a beneficial ownership limitation of 9.99% and the Common Warrants and Placement Agent Warrants are subject to a beneficial ownership limitation of 4.99%. The number of shares in the second and fourth columns do not reflect this limitation. The Selling Stockholders may sell all, some or none of the shares in this offering. See “*Plan of Distribution*.”

Name of Selling Stockholder	Number of Shares of Common Stock Beneficially Owned Prior to this Offering	Maximum Number of Shares of Common Stock to be Sold Pursuant to this Prospectus	Number of Shares of Common Stock Beneficially Owned After this Offering
Armistice Capital Master Fund Ltd. ⁽¹⁾	6,304,350	6,304,350	—
Intracoastal Capital LLC ⁽²⁾	260,871	260,871	—
Augustus Trading LLC ⁽³⁾	143,566	143,566	—
Charles Worthman ⁽⁴⁾	2,550	2,550	—
Michael Mirsky ⁽⁴⁾	48,464	48,464	—
Noam Rubinstein ⁽⁴⁾	31,884	31,884	—
Wilson Drive Holdings LLC ⁽⁵⁾	8,609	8,609	—
Warberg WF XIII LP ⁽⁶⁾	20,000	20,000	—

(1) Consists of (i) 3,101,450 shares of Common Stock issuable upon the exercise of Pre-Funded Warrants and (ii) 6,202,900 shares of Common Stock issuable upon the exercise of Common Warrants. The securities are directly held by Armistice Capital Master Fund Ltd., a Cayman Islands exempted company (the “Master Fund”), and may be deemed to be beneficially owned by: (i) Armistice Capital, LLC (“Armistice Capital”), as the investment manager of the Master Fund; and (ii) Steven Boyd, as the Managing Member of Armistice Capital. The address of Armistice Capital Master Fund Ltd. is c/o Armistice Capital, LLC, 510 Madison Avenue, 7th Floor, New York, NY 10022.

(2) Consists of (i) 81,000 shares of Common Stock, (ii) 5,957 shares of Common Stock issuable upon the exercise of Pre-Funded Warrants, and (iii) 173,914 shares of Common Stock issuable upon the exercise of Common Warrants. The securities are held directly by Intracoastal Capital LLC, a Delaware limited liability company (“Intracoastal”). Mitchell P. Kopin and Daniel B. Asher, each of whom are managers of Intracoastal, have shared voting control and investment discretion over the securities reported herein that are held by Intracoastal. As a result, each of Mr. Kopin and Mr. Asher may be deemed to have beneficial ownership (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of the securities reported herein that are held by Intracoastal. The address of Intracoastal Capital LLC is 245 Palm Trail, Delray Beach, FL 33483.

(3) The number of shares beneficially owned prior to this offering consist of shares of Common Stock issuable upon exercise of Placement Agent Warrants which have been issued as compensation. Orsium Capital LLC, the authorized agent to Augustus Trading LLC, has discretionary authority to vote and dispose of the securities held by Augustus Trading LLC and may be deemed to be the beneficial owner (as determined under Section 13(d) of the Securities Exchange Act of 1934, as amended) of these securities. Olivier Morali, in his capacity as managing member of Orsium Capital LLC, may also be deemed to have investment discretion and voting power over the shares held by Augustus Trading LLC. Orsium Capital LLC and Mr. Morali each disclaims any beneficial ownership of these securities. The address of Augustus Trading LLC is 600 Lexington Avenue, 32nd Floor, New York, NY 10022.

(4) The number of shares beneficially owned prior to this offering consist of shares of Common Stock issuable upon exercise of Placement Agent Warrants which have been issued as compensation. The selling stockholder is affiliated with H.C. Wainwright & Co., LLC, a registered broker-dealer with a registered address of H.C. Wainwright & Co., LLC, 430 Park Ave, 3rd Floor, New York, NY 10022, and has the voting and dispositive power over the securities held. The selling stockholder acquired the Placement Agent Warrants in the ordinary course of business and, at the time the Placement Agent Warrants were acquired, the selling stockholder had no agreement or understanding, directly or indirectly, with any person to distribute such securities.

(5) The number of shares beneficially owned prior to this offering consist of shares of Common Stock issuable upon exercise of Placement Agent Warrants which have been issued as compensation. The securities are held by Wilson Drive Holdings LLC with a registered address of 600 Lexington Avenue, 32nd Floor, New York, NY 10022. Craig Schwabe is the managing member of Wilson Drive Holdings LLC and has the power to vote and dispose the securities held. Neither Wilson Drive Holdings LLC nor Mr. Schwabe is a broker-dealer. Mr. Schwabe is affiliated with the

following registered broker-dealers: H.C. Wainwright & Co., LLC, Rodman & Renshaw LLC and Stockblock Securities LLC. The securities were acquired in the ordinary course of business and, at the time the securities were acquired, the selling stockholder had no agreement or understanding, directly or indirectly, with any person to distribute such securities. Mr. Schwabe has not held any position or office or has had any other material relationship with the Company (or its predecessors or affiliates) during the past three years.

- (6) The number of shares beneficially owned prior to this offering consist of shares of Common Stock issuable upon exercise of Placement Agent Warrants which were issued as compensation. The securities are held by Warberg WF XIII LP with a registered address of 716 Oak St., Winnetka, IL 60093. Daniel Warsh is the managing partner of Warberg WF XIII LP and has voting and dispositive power over the securities and may be deemed to beneficially own the securities. The securities were acquired in the ordinary course of business and, at the time the securities were acquired, the selling stockholder had no agreement or understanding, directly or indirectly, with any person to distribute such securities.

PLAN OF DISTRIBUTION

We are registering the resale by the Selling Stockholders or their permitted transferees of up to an aggregate of 9,980,294 shares of Common Stock, consisting of (i) 81,000 shares of Common Stock, (ii) up to 3,107,407 shares of Common Stock issuable upon exercise of the Pre-Funded Warrants, (iii) up to 6,376,814 shares of Common Stock issuable upon exercise of the Common Warrants, and (iv) up to 255,073 shares of Common Stock issuable upon exercise of the Placement Agent Warrants.

The shares of Common Stock offered by this prospectus may be sold or distributed from time to time by the Selling Stockholders directly to one or more purchasers or through brokers, dealers, or underwriters who may act solely as agents at market prices prevailing at the time of sale, at prices related to the prevailing market prices, at negotiated prices, or at fixed prices, which may be changed. The sale of the Common Stock offered by this prospectus could be effected in one or more of the following methods:

- ordinary brokerage transactions and transactions in which the broker dealer solicits purchasers;
- block trades in which the broker dealer will attempt to sell the securities as agent but may position and resell a portion of the block as principal to facilitate the transaction;
- purchases by a broker dealer as principal and resale by the broker dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- settlement of short sales;
- in transactions through broker dealers that agree with the Selling Stockholders to sell a specified number of such securities at a stipulated price per security;
- through the writing or settlement of options or other hedging transactions, whether through an options exchange or otherwise;
- a combination of any such methods of sale; or
- any other method permitted pursuant to applicable law.

The Selling Stockholders may also sell securities under Rule 144 or any other exemption from registration under the Securities Act, if available, rather than under this prospectus.

Broker dealers engaged by the Selling Stockholders may arrange for other broker dealers to participate in sales. Broker dealers may receive commissions or discounts from the Selling Stockholders (or, if any broker dealer acts as agent for the purchaser of securities, from the purchaser) in amounts to be negotiated, but, except as set forth in a supplement to this prospectus, in the case of an agency transaction not in excess of a customary brokerage commission in compliance with FINRA Rule 2121; and in the case of a principal transaction a markup or markdown in compliance with FINRA Rule 2121.

In connection with the sale of the securities or interests therein, the Selling Stockholders may enter into hedging transactions with broker-dealers or other financial institutions, which may in turn engage in short sales of the securities in the course of hedging the positions they assume. The Selling Stockholders may also sell securities short and deliver these securities to close out their short positions, or loan or pledge the securities to broker-dealers that in turn may sell these securities. The Selling Stockholders may also enter into option or other transactions with broker-dealers or other financial institutions or create one or more derivative securities which require the delivery to such broker-dealer or other financial institution of securities offered by this prospectus, which securities such broker-dealer or other financial institution may resell pursuant to this prospectus (as supplemented or amended to reflect such transaction).

The Selling Stockholders and any broker-dealers or agents that are involved in selling the securities may be deemed to be “underwriters” within the meaning of the Securities Act in connection with such sales. In such event, any commissions received by such broker-dealers or agents and any profit on the resale of the securities purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Each Selling Stockholder has informed the Company that it does not have any written or oral agreement or understanding, directly or indirectly, with any person to distribute the securities.

We will pay the expenses incident to the registration under the Securities Act of the offer and sale of the Common Stock covered by this prospectus by the Selling Stockholders. The Selling Stockholders will pay any underwriting discounts and commissions and expenses incurred by the Selling Stockholders for brokerage, accounting, tax or legal services or any other expenses incurred by the Selling Stockholder in disposing of the securities. The Company has agreed to indemnify the Selling Stockholders against certain losses, claims, damages and liabilities, including liabilities under the Securities Act.

We agreed to keep this prospectus effective until the earlier of (i) the date on which the securities may be resold by the Selling Stockholders without registration and without regard to any volume or manner-of-sale limitations by reason of Rule 144, without the requirement for the Company to be in compliance with the current public information under Rule 144 under the Securities Act or any other rule of similar effect or (ii) all of the securities have been sold pursuant to this prospectus or Rule 144 under the Securities Act or any other rule of similar effect. The resale securities will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the resale securities covered hereby may not be sold unless they have been registered or qualified for sale in the applicable state or an exemption from the registration or qualification requirement is available and is complied with.

We have advised the Selling Stockholders that they are required to comply with Regulation M promulgated under the Exchange Act. With certain exceptions, Regulation M precludes the Selling Stockholders, any affiliated purchasers, and any broker-dealer or other person who participates in the distribution from bidding for or purchasing, or attempting to induce any person to bid for or purchase any security which is the subject of the distribution until the entire distribution is complete. Regulation M also prohibits any bids or purchases made in order to stabilize the price of a security in connection with the distribution of that security. In addition, the Selling Stockholders will be subject to applicable provisions of the Exchange Act and the rules and regulations thereunder, including Regulation M, which may limit the timing of purchases and sales of the common stock by the Selling Stockholders or any other person. All of the foregoing may affect the marketability of the securities offered by this prospectus. We will make copies of this prospectus available to the Selling Stockholders and have informed them of the need to deliver a copy of this prospectus to each purchaser at or prior to the time of the sale (including by compliance with Rule 172 under the Securities Act).

PRINCIPAL STOCKHOLDERS

The following table sets forth certain information with respect to the beneficial ownership of our Common Stock by:

- each person, or group of affiliated persons, who we know to beneficially own more than 5% of our Common Stock;
- each of our named executive officers;
- each of our directors; and
- all of our executive officers and directors as a group.

The percentage beneficial ownership information shown in the table is based on an aggregate of 938,133 shares of our Common Stock outstanding as of April 15, 2026.

Beneficial ownership is determined according to the rules of the SEC, which generally provide that a person has beneficial ownership of a security if he, she or it possesses sole or shared voting or investment power over that security. Under those rules, beneficial ownership includes securities that the individual or entity has the right to acquire, such as through the exercise of stock options, within 60 days of April 15, 2026. Shares subject to options that are currently exercisable or exercisable within 60 days of April 15, 2026 are considered outstanding and beneficially owned by the person holding such options for the purpose of computing the percentage ownership of that person but are not treated as outstanding for the purpose of computing the percentage ownership of any other person. Except as noted by footnote, and subject to community property laws where applicable, based on the information provided to us, we believe that the persons and entities named in the table below have sole voting and investment power with respect to all shares shown as beneficially owned by them.

Unless otherwise indicated, the persons or entities identified in this table have sole voting and investment power with respect to all shares shown as beneficially owned by them, subject to applicable community property laws. Except as otherwise noted below, the address of each of the individuals and entities named in the table below is c/o Artelo Biosciences, Inc., 505 Lomas Santa Fe, Suite 160, Solana Beach, California 92075.

Name and Address of Beneficial Owner	Shares	Percentage
5% Stockholders:		
Intracoastal Capital LLC ⁽¹⁾	81,000	8.6%
Other Directors and Named Executive Officers:		
Gregory D. Gorgas ⁽²⁾	32,138	3.4%
Connie Matsui ⁽³⁾	48,702	5.2%
Steven Kelly ⁽⁴⁾	669	*
Douglas Blayney, M.D. ⁽⁵⁾	695	*
R. Martin Emanuele, Ph.D. ⁽⁶⁾	688	*
Gregory R. Reyes, M.D., Ph.D. ⁽⁷⁾	546	*
Tamara A. Favorito ⁽⁸⁾	8,836	*
Mark E. Spring ⁽⁹⁾	556	*
All directors and executive officers as a group (8 persons)	92,830	9.0%

* Less than 1%

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- (1) Consists of 81,000 shares of Common Stock held directly by Intracoastal. Intracoastal also holds (i) 5,957 shares of Common Stock issuable upon exercise of the Pre-Funded Warrants at an exercise price of \$0.001 per share, subject to a beneficial ownership limitation of 9.99%, and (iii) 173,914 shares of Common Stock issuable upon exercise of the Common Warrants at an exercise price of \$3.20 per share, subject to a beneficial ownership limitation of 4.99%. See “*Selling Stockholders*” for additional information.
- (2) Consists of (i) 1,003 shares of Common Stock held directly by Gregory D. Gorgas, (ii) 134 shares of Common Stock held indirectly by Gorgas Family Trust, (iii) 19,059 shares of Common Stock issuable pursuant to options held directly by Gregory D. Gorgas exercisable within 60 days, (iv) 2,882 shares of Common Stock issued on the conversion of an outstanding note payable, (v) 3,196 warrants representing 3,196 shares of Common Stock which have an exercise price of \$18.72 per common share and expire in October 2030, and (vi) 5,864 warrants representing 5,864 shares of Common Stock which have an exercise price of \$10.20 per common share and expire in October 2030.
- (3) Consists of (i) 210 shares of Common Stock held directly by Connie Matsui, (ii) 725 shares of Common Stock issuable pursuant to options held directly by Connie Matsui exercisable within 60 days, (iii) 11,526 shares of Common Stock issued on the conversion of an outstanding note payable, (v) 12,782 warrants representing 12,782 shares of Common Stock which have an exercise price of \$18.72 per common share and expire in October 2030, and (vi) 23,459 warrants representing 23,459 shares of Common Stock which have an exercise price of \$10.20 per common share and expire in October 2030.
- (4) Consists of (i) 47 shares of Common Stock held by Steven Kelly, and (ii) 622 shares of Common Stock issuable pursuant to options held directly by Steven Kelly exercisable within 60 days.
- (5) Consists of (i) 47 shares of Common Stock held by Douglas Blayney, M.D., and (ii) 648 shares of Common Stock issuable pursuant to options held directly by Douglas Blayney, M.D., exercisable within 60 days.
- (6) Consists of (i) 47 shares of Common Stock held by R. Marty Emanuele, Ph.D., and (ii) 641 shares of Common Stock issuable pursuant to options held directly by R. Marty Emanuele, Ph.D., exercisable within 60 days.
- (7) Consists of 546 shares of Common Stock issuable pursuant to options held directly by Gregory R. Reyes M.D., Ph.D., exercisable within 60 days.
- (8) Consists of (i) 307 shares of Common Stock issuable pursuant to options held directly by Tamara A. Favorito exercisable within 60 days, (ii) 2,058 shares of Common Stock issued on the conversion of an outstanding note payable, (iii) 2,282 warrants representing 2,282 shares of Common Stock which have an exercise price of \$18.72 per common share and expire in October 2030, and (vi) 4,189 warrants representing 4,189 shares of Common Stock which have an exercise price of \$10.20 per common share and expire in October 2030.
- (9) Consists of 556 shares of Common Stock issuable pursuant to options held directly by Mark E. Spring, exercisable within 60 days.

DESCRIPTION OF CAPITAL STOCK

The following description summarizes certain terms of our capital stock and certain provisions of our Articles of Incorporation and Bylaws. This summary does not purport to be complete and is qualified in its entirety by the provisions of our Articles of Incorporation and Bylaws, copies of which are filed with the SEC as exhibits to the registration statement on Form S-1 of which this prospectus forms a part, and to the applicable provisions of Nevada law.

Authorized Capital Stock

Our authorized capital stock consists of 166,689,815 shares of capital stock, of which 166,666,667 shares are designated as common stock, \$0.001 par value per share, and 23,148 shares are designated as preferred stock, \$0.001 par value per share. As of April 15, 2026, there were 938,133 shares of Common Stock issued and outstanding held by approximately 166 holders of record of our Common Stock, and no outstanding shares of preferred stock.

Common Stock

The holders of our Common Stock (i) have equal ratable rights to dividends from funds legally available therefor, when, as and if declared by our board of directors; (ii) are entitled to share in all of our assets available for distribution to holders of Common Stock upon liquidation, dissolution or winding up of our affairs; (iii) do not have preemptive, subscription or conversion rights and there are no redemption or sinking fund provisions or rights; and (iv) are entitled to one non-cumulative vote per share on all matters submitted to a vote of stockholders. The rights, preferences and privileges of the holders of our Common Stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of preferred stock that we may designate in the future.

Preferred Stock

The Company has authorized 23,148 shares of preferred stock. There is no preferred stock outstanding.

Anti-Takeover Effects of Nevada Law and our Articles of Incorporation and Bylaws.

Certain provisions of Nevada law and certain provisions that are included in our Articles of Incorporation and our Bylaws may have the effect of delaying, deferring or discouraging another party from acquiring control of us. These provisions, which are summarized below, are intended to discourage coercive takeover practices and inadequate takeover bids. These provisions are also designed to encourage persons seeking to acquire control of us to first negotiate with our board of directors. We believe that the benefits of the increased protection of our potential ability to negotiate with the proponent of an unfriendly or unsolicited proposal to acquire or restructure us outweigh the disadvantages of discouraging these proposals because negotiation of these proposals could result in an improvement of their terms.

Classified Board. Our amended and restated certificate of incorporation provides that our board of directors is divided into three classes, designated Class I, Class II, and Class III. Each class will be an equal number of directors, as nearly as possible, consisting of one third of the total number of directors constituting the entire board of directors. The term of Class I directors shall terminate on the date of the 2027 annual meeting, the term of the Class II directors shall terminate on the date of the 2028 annual meeting, and the term of the Class III directors shall terminate on the date of the 2026 annual meeting. At each annual meeting of stockholders, successors to the class of directors whose term expires at that annual meeting will be elected for a three-year term.

Stockholder Meetings. Our Bylaws provide that a special meeting of stockholders may be called only by our president, by all of the directors when there are no more than three directors, or if there are more than three directors, by any three directors, or by the holder of a majority share of our capital stock.

Stockholders Not Entitled to Cumulative Voting. Our Bylaws do not permit stockholders to cumulate their votes in the election of directors. Accordingly, the holders of a majority of the outstanding shares of our Common Stock entitled to vote in any election of directors could elect all of the directors standing for election, if they chose, other than any directors that holders of our preferred stock may be entitled to elect.

Nevada Business Combination Statutes. The “business combination” provisions of Sections 78.411 to 78.444, inclusive, of the Nevada Revised Statutes, (the “NRS”), generally prohibit a Nevada corporation with at least 200 stockholders of record from engaging in various “combinations” with any interested stockholder for a period of two years after the date of the transaction in which the person became an interested stockholder, unless (a) such transaction or combination is approved by the Board prior to the date the interested stockholder obtained such status, or (b) the combination is approved by the Board and thereafter is approved at a meeting of the stockholders by the affirmative vote of stockholders representing at least 60% of the outstanding voting power held by disinterested stockholders. The prohibition on “combinations” with an interested stockholder extends beyond the expiration of the two-year period, unless:

- the combination was approved by the Board prior to the person becoming an interested stockholder or the transaction by which the person first became an interested stockholder was approved by the Board before the person became an interested stockholder or the combination is later approved by a majority of the voting power held by disinterested stockholders; or
- if the consideration to be paid by the interested stockholder is at least equal to the highest of: (a) the highest price per share paid by the interested stockholder within the two years immediately preceding the date of the announcement of the combination or in the transaction in which it became an interested stockholder, whichever is higher, (b) the market value per share of Common Stock on the date of announcement of the combination and the date the interested stockholder acquired the shares, whichever is higher, or (c) for holders of preferred stock, the highest liquidation value of the preferred stock, if it is higher.

A “combination” is generally defined to include mergers or consolidations or any sale, lease exchange, mortgage, pledge, transfer, or other disposition, in one transaction or a series of transactions, with an “interested stockholder” having: (a) an aggregate market value equal to 5% or more of the aggregate market value of the assets of the corporation, (b) an aggregate market value equal to 5% or more of the aggregate market value of all outstanding voting shares of the corporation, (c) more than 10% of the earning power or net income of the corporation, and (d) certain other transactions with an interested stockholder or an affiliate or associate of an interested stockholder.

In general, an “interested stockholder” is a person who, together with affiliates and associates, beneficially owns (or within two years, did own) 10% or more of the voting power of the outstanding voting shares of a corporation. The statute could prohibit or delay mergers or other takeover or change in control attempts and, accordingly, may discourage attempts to acquire us even though such a transaction may offer our stockholders the opportunity to sell their stock at a price above the prevailing market price.

Nevada Control Share Acquisition Statutes. The “control share” provisions of Sections 78.378 to 78.3793, inclusive, of the NRS apply to “issuing corporations” that are Nevada corporations with at least 200 stockholders of record, including at least 100 stockholders of record who are Nevada residents, and that conduct business in Nevada directly or through an affiliated corporation. The control share statute prohibits an acquirer, under certain circumstances, from voting its shares of a target corporation’s stock after crossing certain ownership threshold percentages, unless the acquirer obtains approval of the target corporation’s disinterested stockholders. The statute specifies three thresholds: one-fifth or more but less than one-third, one-third or more but less than a majority, and a majority or more, of the outstanding voting power. Generally, once an acquirer crosses one of the above thresholds, those shares acquired within 90 days prior to the shareholder crossing the relevant threshold become “control shares” and such control shares are deprived of the right to vote until disinterested stockholders restore the right. These provisions also provide that if control shares are accorded full voting rights and the acquiring person has acquired a majority or more of all voting power, all other stockholders who do not vote in favor of authorizing voting rights to the control shares are entitled to demand payment for the fair value of their shares in accordance with statutory procedures established for dissenters’ rights.

Our Bylaws provide that we shall be considered an “issuing corporation” as defined in such statutes, irrespective of whether we, as of any date, (i) have 200 or more stockholders of record, at least 100 of whom have had addresses in Nevada appearing on our stock ledger at all times during the 90 days immediately preceding such date, and/or (ii) does business in Nevada directly or through an affiliated corporation.

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The effect of the Nevada control share statutes is that the acquiring person, and those acting in association with the acquiring person, will obtain only such voting rights in the control shares as are conferred by a resolution of the stockholders at an annual or special meeting. The Nevada control share law could have the effect of discouraging takeovers of us.

Amendment of Articles of Incorporation and Bylaw Provisions. The amendment of any provision of our Articles of Incorporation (other than the name of the Company) must be approved by the board of directors and shareholders holding a majority of the voting power of the issued and outstanding shares of the Company's capital stock. The amendment of any provision of our Bylaws may be made by majority vote of the shareholders at any annual meeting or special meeting called for that purpose or by the board of directors, but the board of directors may not alter or repeal any Bylaws adopted by the shareholders.

The provisions of Nevada law, our Articles of Incorporation, and our Bylaws could have the effect of discouraging others from attempting hostile takeovers and, as a consequence, they may also inhibit temporary fluctuations in the market price of our Common Stock that often result from actual or rumored hostile takeover attempts. These provisions may also have the effect of preventing changes in the composition of our board and management. It is possible that these provisions could make it more difficult to accomplish transactions that stockholders may otherwise deem to be in their best interests.

Transfer Agent and Registrar

The transfer agent and registrar for our Common Stock is Equiniti Trust Company, LLC. The transfer agent's address is 48 Wall Street, 23rd floor, New York, NY 10043.

Market Listing

Our Common Stock is listed on The Nasdaq Capital Market tier of Nasdaq under the symbol "ARTL."

LEGAL MATTERS

The validity of the securities offered by this prospectus will be passed upon for us by Fennemore Craig, P.C., Reno, Nevada.

EXPERTS

The consolidated financial statements of Artelo Biosciences, Inc. incorporated in this prospectus by reference to the Annual Report on Form 10-K for the year ended December 31, 2025, and as updated on Form 8-K filed with the SEC on March 17, 2026, have been so incorporated in reliance on the report (which contains an explanatory paragraph regarding our ability to continue as a going concern) of MaloneBailey, LLP, an independent registered public accounting firm, given on the authority of said firm as experts in auditing and accounting.

WHERE YOU CAN FIND MORE INFORMATION

We have filed with the SEC a registration statement on Form S-1 under the Securities Act with respect to the shares of our Common Stock offered by this prospectus. This prospectus, which constitutes a part of the registration statement, does not contain all of the information set forth in the registration statement, some of which is contained in exhibits to the registration statement as permitted by the rules and regulations of the SEC. For further information with respect to us and our Common Stock, we refer you to the registration statement, including the exhibits filed as a part of the registration statement. Statements contained in this prospectus concerning the contents of any contract or any other document are not necessarily complete. If a contract or document has been filed as an exhibit to the registration statement, please see the copy of the contract or document that has been filed. Each statement in this prospectus relating to a contract or document filed as an exhibit is qualified in all respects by the filed exhibit. The SEC maintains an Internet website that contains reports, proxy statements and other information about issuers, like us, that file electronically with the SEC. The address of that website is www.sec.gov.

You may request a copy of this prospectus by contacting us at: Artelo Biosciences, Inc. at 505 Lomas Santa Fe, Suite 160, Solana Beach, CA or 858-925-7049. Our website address is www.artelobio.com and such reports and documents may be accessed from <https://ir.artelobio.com/>. Information contained on or accessible through Artelo's website is not a part of the registration statement of which this prospectus forms a part, and the inclusion of Artelo's website address in this prospectus is an inactive textual reference only.

INCORPORATION OF CERTAIN INFORMATION BY REFERENCE

The SEC allows us to incorporate by reference into this prospectus certain information we file with it, which means that we can disclose important information by referring you to those documents. The information incorporated by reference is considered to be a part of this prospectus, and information that we file later with the SEC will automatically update and supersede information contained in this prospectus. We incorporate by reference the documents listed below that we have previously filed with the SEC (excluding those portions of any Form 8-K that are not deemed “filed” pursuant to the General Instructions of Form 8-K):

- our Annual Report on [Form 10-K](#) for the year ended December 31, 2025, filed with the SEC on February 24, 2026;
- our Current Reports on Form 8-K filed on [January 2, 2026](#), [January 16, 2026](#), [January 30, 2026](#), [February 5, 2026](#), [February 5, 2026](#), [March 6, 2026](#), [March 17, 2026](#), [March 18, 2026](#), [March 26, 2026](#), [March 30, 2026](#), and [April 7, 2026](#); and
- the description of our Common Stock contained in [Exhibit 4.1](#) to our Annual Report on Form 10-K for the year ended December 31, 2025, filed with the SEC on February 24, 2026, including any amendment or report filed for the purpose of updating such description.

This prospectus forms part of a registration statement on Form S-1 that we filed with the SEC. This prospectus does not contain all of the information set forth in the registration statement and the exhibits to the registration statement or the documents incorporated by reference herein and therein. For further information with respect to us and the securities that we are offering under this prospectus, we refer you to the registration statement and the exhibits and schedules filed as a part of the registration statement and the documents incorporated by reference herein and therein. You should rely only on the information incorporated by reference or provided in this prospectus and registration statement. We have not authorized anyone else to provide you with different information. You should not assume that the information in this prospectus and the documents incorporated by reference herein and therein is accurate as of any date other than the respective dates thereof.

All reports and other documents we subsequently file pursuant to Section 13(a), 13(c), 14 or 15(d) of the Exchange Act prior to the termination of this offering, including all such documents we may file with the SEC after the date of the initial registration statement and prior to the effectiveness of the registration statement, but excluding any information furnished to, rather than filed with, the SEC, will also be incorporated by reference into this prospectus and deemed to be part of this prospectus from the date of the filing of such reports and documents.

We will provide you without charge, upon your oral or written request, with a copy of any or all reports, proxy statements and other documents we file with the SEC, as well as any or all of the documents incorporated by reference in this prospectus or the registration statement (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into such documents). Requests for such copies should be directed to Artelo Biosciences, Inc., Attn: Chief Executive Officer, 505 Lomas Santa Fe, Suite 160, Solana Beach, California, 92075. You may also direct any requests for documents to us by telephone at (858) 925-7049.



Artelo Biosciences, Inc.

Up to 9,820,294 Shares of Common Stock

PRELIMINARY PROSPECTUS

April 15, 2026