

**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549**

FORM S-3

**REGISTRATION STATEMENT
UNDER
THE SECURITIES ACT OF 1933**

Dogwood Therapeutics, Inc.

(Exact name of registrant as specified in its charter)

Delaware
(State or other jurisdiction of
incorporation or organization)

85-4314201
(I.R.S. Employer
Identification Number)

**44 Milton Avenue
Alpharetta, GA 30009
(866) 620-8655**

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

**Greg Duncan
Chief Executive Officer
Dogwood Therapeutics, Inc.
44 Milton Avenue
Alpharetta, GA 30009
(866) 620-8655**

(Name, address, including zip code, and telephone number, including area code, of agent for service)

With copies to:

**Darrick M. Mix, Esq.
Duane Morris LLP
30 South 17th Street
Philadelphia, PA 19103
(215) 979-1000**

Approximate date of commencement of proposed sale to the public: From time to time after this Registration Statement becomes effective.

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

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

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

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

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

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

Indicate by check mark whether the Registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer" and "smaller reporting company" and "emerging growth company" in Rule 12b-2 of the Exchange Act. (Check one):

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☒

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

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

THE INFORMATION IN THIS PROSPECTUS IS NOT COMPLETE AND MAY BE CHANGED. WE MAY NOT SELL THESE SECURITIES UNTIL THE REGISTRATION STATEMENT FILED WITH THE SECURITIES AND EXCHANGE COMMISSION IS EFFECTIVE. THIS PROSPECTUS IS NOT AN OFFER TO SELL THESE SECURITIES AND IS NOT SOLICITING AN OFFER TO BUY THESE SECURITIES IN ANY JURISDICTION WHERE THE OFFER OR SALE IS NOT PERMITTED.

SUBJECT TO COMPLETION, DATED October 1, 2025

PROSPECTUS

28,038,689 Shares of Common Stock



This prospectus relates to the resale of up to 28,038,689 shares of Common Stock, par value \$0.0001 (the "Common Stock"), of Dogwood Therapeutics, Inc., a Delaware corporation (the "Company"), that may be sold from time to time by the selling stockholders named in this prospectus (the "Selling Stockholders").

The 28,038,689 shares of Common Stock offered under this prospectus (the "Shares") consist of (i) 211,383 shares of Common Stock issued to Sealbond Limited ("Sealbond") pursuant to the Share Exchange Agreement (as defined below); (ii) 21,083,854 shares of Common Stock underlying the Series A Non-Voting Convertible Preferred Stock, par value \$0.0001 ("Series A Preferred Stock"), issued to Sealbond pursuant to the Share Exchange Agreement; (iii) 10,568 shares of Common Stock issued to affiliates of Tungsten Advisors (through its Broker-Dealer, Finalis Securities LLC) (together with such affiliates, "Tungsten") in connection with the Combination (as defined below); (iv) 1,054,190 shares of Common Stock underlying the Series A Preferred Stock issued to Tungsten in connection with the Combination; (v) 26,354 shares of Common Stock underlying shares of Series A Preferred Stock issued to affiliates of Tungsten as a payment-in-kind dividend on that shares of Series A Preferred Stock referenced in (iv) above; (vi) 527,096 shares of Common Stock underlying shares of Series A Preferred Stock issued to Sealbond as a payment-in-kind dividend on that shares of Series A Preferred Stock referenced in (ii) above; (vii) 2,842,638 shares of Common Stock underlying the Series A-1 Non-Voting Convertible Preferred Stock, par value \$0.0001 (the "Series A-1 Preferred Stock") issued to Conjoint Inc. ("Conjoint") pursuant to the Exchange and Cancellation Agreement (as defined below); (viii) 382,034 shares of Common Stock issued 50.0% to Serpin Pharma, Inc. ("Serpin Pharma") and 50.0% to Rejuvenation Labs, Inc. ("Rejuvenation Labs" and, together with Serpin Pharma, "Serpin") pursuant to the Licensing Agreement (as defined below); (ix) 1,791,878 shares of Common Stock underlying the Series A-2 Non-Voting Convertible Preferred Stock, par value \$0.0001 per share (the "Series A-2 Preferred Stock"), issued 50.0% to Serpin Pharma and 50.0% to Rejuvenation Labs; and (x) 108,694 shares of Common Stock underlying the Series A-2 Preferred Stock issued to Tungsten as transaction expenses in connection with the Licensing Agreement. The Series A Preferred Stock, Series A-1 Preferred Stock, and Series A-2 Preferred Stock are sometimes referred to herein collectively as the "Preferred Stock." Each share of Preferred Stock is convertible into 10,000 shares of Common Stock. See "Description of Capital Stock."

The issuance of shares of Common Stock and Series A Preferred Stock to Sealbond was made pursuant to a Share Exchange Agreement, dated as of October 7, 2024, by and between Pharmagesic (Holdings) Inc. ("Pharmagesic"), the Company, and Sealbond (the "Share Exchange Agreement"). Tungsten (through its broker-dealer, Finalis Securities LLC) acted as the financial advisor to the Company in connection with the Combination involving Pharmagesic, and the shares of Common Stock and Series A Preferred Stock were issued to Tungsten as partial compensation for those services. The Series A-1 Preferred Stock was issued to Conjoint pursuant to a Debt Exchange Cancellation Agreement between the Company and Conjoint, dated as of March 12, 2025 (the "Exchange and Cancellation Agreement"). The issuance of shares of Common Stock and Series A-2 Preferred Stock to Serpin was made pursuant to an Exclusive License Agreement between the Company and Serpin, dated as of September 29, 2025 (the "Licensing Agreement"). We also issued the shares of Series A-2 Preferred to Tungsten as compensation for the services provided in connection with the Licensing Agreement.

We are not selling any shares of our Common Stock, and we will not receive any proceeds from the sale of any of the shares of Common Stock by the Selling Stockholders. The Selling Stockholders will pay all brokerage fees and commissions and similar sale-related expenses. We cannot predict when and in what amounts, if any, the Shares will be sold.

A supplement to this prospectus may add, update or change information contained in or incorporated by reference into this prospectus. However, no prospectus supplement shall offer a security that is not registered and described in this prospectus at the time of its effectiveness. You should read this prospectus and any prospectus supplement, as well as the documents incorporated by reference or deemed to be incorporated by reference into this prospectus, carefully before you invest. This prospectus may not be used to offer or sell our securities unless accompanied by a prospectus supplement relating to the offered securities.

We are an emerging growth company and a smaller reporting company as defined under federal securities laws and, as such, may elect to comply with certain reduced public company reporting requirements for future filings.

Our Common Stock is listed on the Nasdaq Capital Market ("Nasdaq") under the symbol "DWTX." On September 30, 2025, the last reported sale price of our Common Stock on Nasdaq was \$7.70 per share. We will provide information in any applicable prospectus supplement regarding any listing of securities other than shares of our Common Stock on any securities exchange.

An investment in our securities involves a high degree of risk. See the sections entitled "*Risk Factors*" on page 7 of this prospectus and any similar section contained or incorporated by reference in the applicable prospectus supplement concerning factors you should consider before investing in our securities.

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

The date of this prospectus is October 1, 2025

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement on Form S-3 that we filed with the Securities and Exchange Commission (the "SEC") pursuant to which the Selling Stockholders may, from time to time, offer and sell or otherwise dispose of the shares of Common Stock covered by this prospectus. This prospectus, together with any applicable prospectus supplement or free writing prospectus and the documents incorporated by reference into this prospectus, include all material information relating to this offering. You should carefully read both this prospectus and any applicable prospectus supplement and any related free writing prospectus together with the additional information described under "*Where You Can Find More Information*" before buying securities in this offering.

You should rely only on the information contained in, or incorporated by reference into, this prospectus and the applicable prospectus supplement, along with the information contained in any free writing prospectuses we have authorized for use in connection with a specific offering. We have not authorized anyone to provide you with different or additional information. If anyone provides you with different or inconsistent information, you should not rely on it. We are not making an offer to sell or seeking an offer to buy securities under this prospectus or any applicable prospectus supplement or free writing prospectus in any jurisdiction where the offer or sale is not permitted.

The information appearing in this prospectus, any applicable prospectus supplement and any related free writing prospectus is accurate only as of the date on the front of the document and any information we have incorporated by reference is accurate only as of the date of the document incorporated by reference, regardless of the time of delivery of this prospectus, the applicable prospectus supplement or any related free writing prospectus, or any sale of a security. Our business, financial condition, results of operations and prospects may have changed since those dates.

This prospectus and any accompanying prospectus supplement or other offering materials do not contain all of the information included in the registration statement as permitted by the rules and regulations of the SEC. We are subject to the reporting requirements of the Securities Exchange Act of 1934 (the "Exchange Act"), and, therefore, file reports and other information with the SEC. Statements contained in this prospectus and any accompanying prospectus supplement, any free writing prospectus or other offering materials about the provisions or contents of any agreement or other document are only summaries. If SEC rules require that any agreement or document be filed as an exhibit to the registration statement, you should refer to that agreement or document for its complete contents. 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*."

We further note that the representations, warranties and covenants made by us in any agreement that is filed as an exhibit to any document that is incorporated by reference in this prospectus were made solely for the benefit of the parties to such agreement, including, in some cases, for the purpose of allocating risk among the parties to such agreements, and should not be deemed to be a representation, warranty or covenant to you. Moreover, such representations, warranties or covenants were accurate only as of the date when made. Accordingly, such representations, warranties and covenants should not be relied on as accurately representing the current state of our affairs.

This prospectus incorporates by reference, and the applicable prospectus supplement or any free writing prospectus may contain and incorporate by reference, certain market and industry data obtained from independent market research, industry publications and surveys, governmental agencies and publicly available information. Industry surveys, publications and forecasts generally state that the information contained therein has been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. We believe the data from such third-party sources to be reliable. However, we have not independently verified any of such data and cannot guarantee its accuracy or completeness. Similarly, internal market research and industry forecasts, which we believe to be reliable based upon our management's knowledge of the market and the industry, have not been verified by any independent sources. While we are not aware of any misstatements regarding the market or industry data presented herein, our estimates involve risks and uncertainties and are subject to change based on various factors and evolution over time.

In this prospectus, unless otherwise indicated, "our company," "Dogwood," "Dogwood Therapeutics," "we," "us" or "our" refer to Dogwood Therapeutics, Inc., a Delaware corporation. When we refer to "you," we mean the potential holders of the applicable class or series of securities.

We own or have rights to use a number of registered and common law trademarks, service marks and/or trade names in connection with our business in the United States and/or in certain foreign jurisdictions. Solely for convenience, the trademarks, service marks, logos and trade names referred to in this prospectus, any prospectus supplement and any free writing prospectuses may be referred to without the ® and ™ symbols, but such references are not intended to indicate, in any way, that we will not assert, to the fullest extent under applicable law, our rights or the rights of the applicable licensors to these trademarks, service marks and trade names. This prospectus, any prospectus supplement and any free writing prospectus may contain additional trademarks, service marks and trade names of others, which are the property of their respective owners. All trademarks, service marks and trade names appearing in this prospectus, any prospectus supplement and any free writing prospectus are, to our knowledge, the property of their respective owners. We do not intend our use or display of other companies' trademarks, service marks, copyrights or trade names to imply a relationship with, or endorsement or sponsorship of us by, any other companies.

PROSPECTUS SUMMARY

This prospectus summary highlights certain information about our company and other information contained elsewhere in this prospectus or in documents incorporated by reference. This summary does not contain all of the information that you should consider before making an investment decision. You should carefully read the entire prospectus, any prospectus supplement, including the section entitled "Risk Factors" and the documents incorporated by reference into this prospectus, before making an investment decision.

Our Company

Overview

We are a pre-revenue, development-stage biopharmaceutical company focused on developing new medicines to treat pain and fatigue-related disorders. Our pipeline is focused on two separate pillars: voltage-gated sodium channel ("Na_v") 1.7 modulation to treat chronic and acute pain disorders and combination antiviral therapies targeting reactivated herpes virus mediated illnesses. The proprietary non-opioid Na_v 1.7 analgesic program is centered on our lead development candidate Halneuron[®], which is a voltage-gated sodium channel modulator, a mechanism known to be effective for reducing pain. The antiviral program includes IMC-1 and IMC-2, which are novel, proprietary, fixed dose combinations of nucleoside analog, anti-herpes antivirals and the anti-inflammatory agent celecoxib for the treatment of fibromyalgia and Long-COVID.

Na_v 1.7 Non-Opioid Analgesic Program

Our lead product candidate, Halneuron[®], is in Phase 2b clinical development for the treatment of chemotherapy-induced neuropathic pain ("HALT-CINP-203"). The active pharmaceutical ingredient is highly purified tetrodotoxin, a potent sodium channel modulator found in the ovaries of puffer fish and several other marine animals. Halneuron[®] works as an analgesic by modulating the activity of Na_v 1.7, a key sodium channel located in the peripheral nervous system involved in pain signal transmission. By reducing the activity of the Na_v 1.7 channel, Halneuron[®] has the potential to reduce pain associated with conditions involving neuropathic pain, chronic pain and acute forms of pain.

In the first quarter of 2025, we commenced dosing of patients in the HALT-CINP-203 clinical trial in the United States. HALT-CINP-203 is a double-blind, placebo controlled clinical trial to access the efficacy and safety of Halneuron[®] in approximately 200 patients with moderate to severe neuropathic pain caused by previous platinum and/or taxane based chemotherapy. The primary efficacy endpoint is the change from baseline to week 4 in the weekly average of daily 24-hour recall pain intensity scores, comparing Halneuron[®] to the placebo. The secondary endpoints include patient global impression of change, Patient-Reported Outcomes Measurement Information System ("PROMIS") fatigue, PROMIS sleep, PROMIS-29, pain interference, hospital anxiety and depression scale and neuropathic pain symptom inventory. We expect to conduct an interim analysis of data from approximately 40-50% of the patients enrolled in HALT-CINP-203 in the fourth quarter of 2025. The planned interim analysis is designed to explore one of four possible outcomes, (i) early stopping due to achievement of statistically significant pain reduction with the smaller sample size, (ii) a futility determination, (iii) a recommendation to continue the study to the planned sample size of 200 total patients, or (iv) a recommendation to increase the HALT-CINP patients sample size based on the Halneuron[®] observed treatment effect size versus placebo at the interim analysis. Top-line data from the trial are expected in the second-half of 2026.

Antiviral Program

In October 2024, Halneuron[®] became our lead program and the primary focus of our day-to-day operations. However, we continue to explore the best options to advance development of IMC-1 and IMC-2 which are novel, proprietary, fixed dose combinations of nucleoside analog, anti-herpes antivirals and the anti-inflammatory agent celecoxib. IMC-1 is a novel combination of famciclovir and celecoxib intended to synergistically suppress herpesvirus activation and replication, with the end goal of reducing a patient's viral mediated disease burden. IMC-2 is a combination of valacyclovir and celecoxib that like IMC-1, is intended to synergistically suppress herpesvirus activation and replication with a more specific activity against the Epstein-Barr virus (herpesvirus HHV-4). We have reached agreement with FDA on the primary endpoint of fatigue reduction as an approvable endpoint for new Long-COVID development candidates, such as IMC-2. Based on prior research and support from key opinion leaders in the infectious disease community, we continue to believe IMC-2 holds great value for reducing the fatigue associated with Long-COVID illness. However, recent 40% National Institute of Health budget cuts, including research funding related to COVID and Long-COVID illness, create less certainty as regards to funding and potential partnership of the IMC-2 program. Unmet medical need related to fibromyalgia remains high, and finding an IMC-1 Phase 3 program partner remains one of our top business development priorities.

Recent Developments

On September 29, 2025, the Company entered into the Licensing Agreement with Serpin, pursuant to which Serpin granted the Company a royalty-free, sublicensable global license to develop Serpin Pharma's intravenous formulation of SP16 ("SP16 IV"), a low-density lipoprotein receptor-related protein 1 agonist which, in our opinion, has demonstrated both anti-inflammatory and neural repair activity that has the potential to treat chemotherapy-induced peripheral neuropathy ("CIPN"). In consideration of the Licensing Agreement, the Company issued 191,017 shares of Common Stock and 89,5939 shares of Series A-2 Preferred Stock to each of Serpin Pharma and Rejuvenation Labs. We believe that SP16 IV may have intrinsic potential to deliver adjunctive improvement of non-pain symptoms if utilized with Halneuron[®]. SP16 IV will be the focus of an upcoming Phase 1b CIPN study funded by the National Cancer Institute.

Emerging Growth Company

We are an "emerging growth company" as defined in the Jumpstart Our Business Startups Act of 2012 (the "JOBS Act"). We could be an emerging growth company until December 31, 2025, although circumstances could cause us to lose that status earlier, including if the market value of our Common Stock held by non-affiliates exceeds \$700.0 million as of the prior June 30, if we have total annual gross revenue of approximately \$1.1 billion or more during any fiscal year, or if we issue more than \$1.0 billion in non-convertible debt during any three-year period.

For as long as we remain an "emerging growth company," we may take advantage of certain exemptions from various reporting requirements that are applicable to public companies that are not "emerging growth companies," including:

- not being required to comply with the auditor attestation requirements of Section 404 of the Sarbanes-Oxley Act relating to the effectiveness of our internal control over financial reporting;
- reduced disclosure obligations regarding executive compensation and financial statements in our periodic reports, proxy statements and registration statements; and
- exemptions from the requirements of holding a nonbinding advisory vote to approve executive compensation and stockholder approval of any golden parachute payments not previously approved.

We have elected to take advantage of these reporting exemptions and, therefore, the information that we provide stockholders may be different than what you might obtain from other public companies in which you hold equity interests.

Under the JOBS Act, emerging growth companies can delay adopting new or revised accounting standards issued subsequent to the enactment of the JOBS Act until such time as those standards apply to private companies. We have elected to use this extended transition period for complying with new or revised accounting standards that have different effective dates for public and private companies until the earlier of the date that is (i) no longer an emerging growth company or (ii) affirmatively and irrevocably opt out of the extended transition period provided by the JOBS Act. As a result, our financial statements contained in, or incorporated by reference into, this prospectus, any prospectus supplement and any free writing prospectus may not be comparable to companies that comply with the new or revised accounting pronouncements as of public company effective dates.

Corporate Information

We were incorporated under the laws of the State of Delaware on December 16, 2020 through a corporate conversion just prior to our initial public offering, at which time we were known as Virios Therapeutics, Inc. We were originally formed on February 28, 2012 as a limited liability company under the laws of the State of Alabama as Innovative Med Concepts, LLC. On July 23, 2020, we changed our name from Innovative Med Concepts, LLC to Virios Therapeutics, LLC. On October 7, 2024, we acquired Pharmagesic, the parent company of Wex Pharmaceuticals, Inc., through a business combination (the "Combination"). On October 9, 2024, we changed our name from Virios Therapeutics, Inc. to Dogwood Therapeutics, Inc. Prior to the Combination, Pharmagesic was a wholly-owned subsidiary of Sealbond and an indirect wholly-owned subsidiary of CK Life Sciences Int'l., (Holdings) Inc., a listed entity on the Main Board of the Hong Kong Stock Exchange.

Our principal executive offices are located at 44 Milton Avenue, Alpharetta, Georgia and our telephone number is (866) 620-8655. Our website address is www.dwtx.com. The information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus. We have included our web address as an inactive textual reference only. We make our Annual Reports on Form 10-K, Quarterly Reports on Form 10-Q, Current Reports on Form 8-K, and amendments to these reports available free of charge on our website as soon as reasonably practicable after we file these reports with the SEC.

THE OFFERING

Issuer	Dogwood Therapeutics, Inc.
Shares of Common Stock offered by the Selling Stockholders	Up to 28,038,689 shares of our Common Stock.
Shares of Common Stock outstanding immediately prior to this offering	2,293,162 shares (as of September 30, 2025).
Shares of Common Stock outstanding immediately prior to this offering plus shares of Common Stock issuable upon conversion of all Preferred Stock	29,727,866 shares
Shares of Common Stock outstanding immediately following this offering	2,293,162 shares
Shares of Common Stock outstanding immediately following this offering plus shares of Common Stock issuable upon conversion of all Preferred Stock	29,727,866 shares
Terms of the offering	Each Selling Stockholder will determine when and how it will dispose of any shares of our Common Stock that are registered under this prospectus for resale. See " <i>Plan of Distribution</i> ."
Plan of distribution	Each Selling Stockholder will determine when and how it sells all or a portion of the shares of Common Stock offered pursuant to this prospectus. See " <i>Plan of Distribution</i> ."
Use of proceeds	We are not selling any securities under this prospectus and will not receive any proceeds from the sale of Common Stock by the Selling Stockholders pursuant to this prospectus. See " <i>Use of Proceeds</i> ."
Nasdaq symbol	"DWTX"
Risk factors	Investing in our securities involves significant risks. Before making a decision whether to invest in our securities, please read the information contained under the heading " <i>Risk Factors</i> " in this prospectus, the documents we have incorporated by reference herein and under similar headings in other documents filed after the date hereof and incorporated by reference into this prospectus. See " <i>Information Incorporated by Reference</i> " and " <i>Where You Can Find More Information</i> ."
Transfer agent	The transfer agent and registrar for our Common Stock is Broadridge Corporate Issuer Solutions, Inc.

RISK FACTORS

Investing in our securities involves risk. Before making an investment decision, you should carefully consider the risks described under "Risk Factors" in our most recent Annual Report on Form 10-K filed with the SEC on March 31, 2025, and any updates thereto in our Quarterly Reports on Form 10-Q, together with all of the other information appearing in or incorporated by reference into this prospectus, in light of your particular investment objectives and financial circumstances. The risks and uncertainties we have described in such documents are not the only risks that we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations. Our business, financial condition or results of operations could be materially adversely affected by any of these risks. The trading price of our securities could decline due to any of these risks, and you may lose all or part of your investment.

Risks Related to this Offering

The issuance of the shares of Common Stock covered by this prospectus will significantly increase the total number of shares of Common Stock issued and outstanding and thereby cause our existing stockholders to experience substantial dilution.

The shares of Common Stock covered by this prospectus include shares issuable upon the conversion of our Preferred Stock. As of September 30, 2025, there were 2,293,162 shares of Common Stock issued and outstanding (prior to any deemed issuance of any Shares). This offering will not result in the issuance of any new shares of Common Stock and, prior to the conversion of any shares of Preferred Stock, the number of shares of Common Stock issued and outstanding immediately following this offering will be 2,293,162. If all shares of Preferred Stock are converted into shares of Common Stock and we are required to issue the maximum number of shares of Common Stock that are being registered hereunder, the number of shares of Common Stock issued and outstanding after such issuance would represent approximately 1,223% of the number of shares of Common Stock issued and outstanding as of the date of this prospectus. As a result, an existing stockholder's proportionate interest in us will be substantially diluted. The actual number of shares of Common Stock that we issue to the Selling Stockholders may be less than the aggregate number of Shares covered by this prospectus.

Substantial future sales or other issuances of our Common Stock could depress the market for our Common Stock.

Sales of a substantial number of shares of our Common Stock and any future sales of a substantial number of shares of Common Stock in the public market, including the issuance of shares or any shares issuable upon conversion of the Preferred Stock, or the perception by the market that those sales could occur, could cause the market price of our Common Stock to decline or could make it more difficult for us to raise funds through the sale of equity and equity-related securities in the future at a time and price that our management deems acceptable, or at all. In addition, as opportunities present themselves, we may enter into financing or similar arrangements in the future, including the issuance of debt securities, preferred stock or Common Stock, which could also depress the market for our Common Stock. We cannot predict the effect, if any, that market sales of those shares of Common Stock or the availability of those shares for sale will have on the market price of our Common Stock.

Each of the Series A Preferred Stock, Series A-1 Preferred Stock, and Series A-2 Preferred Stock cannot be converted into Common Stock without stockholder approval. There is no guarantee these approvals, if any, will be obtained.

While it is anticipated that the Company's stockholders will approve the conversion of each of the Series A Preferred Stock, Series A-1 Preferred Stock, and Series A-2 Preferred Stock at a special meeting of the Company's stockholders (the "Conversion Approvals"), there can be no guarantee that such stockholder approval will be obtained. As of the date hereof, we have not sought stockholder approval of these conversions, although the Company intends to seek stockholder approval in the near future. If one or more Conversion Approvals is not obtained, persons holding Series A Preferred Stock, Series A-1 Preferred Stock, or Series A-2 Preferred Stock, as applicable, will continue to hold their Preferred Stock until such time as stockholder approval may be obtained.

Risks Related to the Licensing Agreement

The Licensing Agreement and our use of SP16 IV may not result in material benefits to our business.

There can be no assurance that we will not actually realize any of the benefits from the Licensing Agreement or realize such benefits within the anticipated timeframe. We believe that SP16 IV may have intrinsic potential to deliver adjunctive improvement of non-pain symptoms if utilized with Halneuron[®], but the Company will not be able to determine whether this belief was accurate until after reviewing the results of the necessary studies and trials. These results may not validate our belief in the product's effectiveness or may the results take longer than anticipated to acquire. If our anticipated combination of SP16 IV and Halneuron[®] is unsuccessful or delayed, our results of operations could be negatively impacted.

SPECIAL NOTE REGARDING FORWARD-LOOKING STATEMENTS

This prospectus and any accompanying prospectus supplement and the documents we incorporate by reference in this prospectus and any accompanying prospectus supplement contains forward-looking statements. All statements other than statements of historical facts contained in this prospectus, including statements regarding our future results of operations and financial position, business strategy, prospective products, product approvals, research and development costs, timing and likelihood of success, plans and objectives of management for future operations and future results of anticipated products, are forward-looking statements. These statements involve known and unknown risks, uncertainties and other important factors that may cause our actual results, performance or achievements to be materially different from any future results, performance or achievements expressed or implied by the forward-looking statements.

Forward-looking statements may be identified by the use of the words "aim," "anticipate," "assume," "believe," "contemplate," "continue," "could," "design," "due," "estimate," "expect," "goal," "intend," "may," "objective," "plan," "predict," "positioned," "potential," "seek," "should," "target," "will," "would" and other similar words and phrases, including the negatives of these terms, or other variations of these terms, that denote future events. The forward-looking statements in this prospectus and any accompanying prospectus supplement and the documents we incorporate by reference in this prospectus and any accompanying prospectus supplement are only predictions. We have based these forward-looking statements largely on our current expectations and projections about future events and financial trends that we believe may affect our business, financial condition and results of operations. These forward-looking statements speak only as of the date of this prospectus and are subject to a number of risks, uncertainties and assumptions described under the sections in this prospectus titled "*Risk Factors*" and elsewhere in this prospectus. Because forward-looking statements are inherently subject to risks and uncertainties, some of which cannot be predicted or quantified and some of which are beyond our control, you should not rely on these forward-looking statements as predictions of future events. The events and circumstances reflected in our forward-looking statements may not be achieved or occur and actual results could differ materially from those projected in the forward-looking statements. Moreover, we operate in an evolving environment. New risk factors and uncertainties may emerge from time to time, and it is not possible for management to predict all risk factors and uncertainties. Except as required by applicable law, we do not plan to publicly update or revise any forward-looking statements contained herein, whether as a result of any new information, future events, changed circumstances or otherwise. Although we believe that we have a reasonable basis for each forward-looking statement contained in this this prospectus and any accompanying prospectus supplement, we caution you that these statements are based on a combination of facts and factors currently known by us and our expectations of the future, about which we cannot be certain.

This prospectus and any related prospectus supplement also contains, or may contain, estimates, projections and other information concerning our industry, our business and the markets for our products, including data regarding the estimated size of those markets and their projected growth rates. We obtained the industry and market data in this prospectus from our own research as well as from industry and general publications, surveys and studies conducted by third parties. This data involves a number of assumptions and limitations and contains projections and estimates of the future performance of the industries in which we operate that are subject to a high degree of uncertainty, including those discussed in "*Risk Factors*." We caution you not to give undue weight to such projections, assumptions and estimates. Further, industry and general publications, studies and surveys generally state that they have been obtained from sources believed to be reliable, although they do not guarantee the accuracy or completeness of such information. While we believe that these publications, studies and surveys are reliable, we have not independently verified the data contained in them. In addition, while we believe that the results and estimates from our internal research are reliable, such results and estimates have not been verified by any independent source.

These forward-looking statements include, though are not limited to, statements about future results of operations, financial position, research and development costs, regulatory approvals, and capital requirements and our needs for additional financing.

We caution you that the aforementioned statements may not contain all of the forward-looking statements made in this prospectus and any accompanying prospectus supplement.

You should read this prospectus and any accompanying prospectus supplement and the documents that we reference in this prospectus and any accompanying prospectus supplement and have filed as exhibits to the registration statement, of which this prospectus is a part, completely and with the understanding that our actual future results may be materially different from what we expect. We qualify all of our forward-looking statements by these cautionary statements.

DIVIDEND POLICY

We have never declared or paid any cash dividends on our Common Stock. We intend to retain future earnings, if any, to finance the operation and expansion of our business and do not anticipate paying any cash dividends in the foreseeable future. Investors should not purchase our Common Stock with the expectation of receiving cash dividends. Any future determination related to our dividend policy will be made at the discretion of our board of directors after considering our financial condition, results of operations, capital requirements, business prospects and other factors our board of directors deems relevant, and subject to the restrictions contained in any future financing instruments.

USE OF PROCEEDS

We will not receive any of the proceeds from the sale of any shares of Common Stock offered by the Selling Stockholders under this prospectus. Any proceeds from the sale of shares of Common Stock under this prospectus will be received by the applicable Selling Stockholder. We are required to pay certain offering fees and expenses in connection with the registration of the Selling Stockholders' securities and to indemnify the Selling Stockholders against certain liabilities. Please see "*Selling Stockholders*" for a list of the persons receiving proceeds from the sale of the Common Stock covered by this prospectus.

DESCRIPTION OF CAPITAL STOCK

The following is a description of our Common Stock and Preferred Stock, certain provisions of our certificate of incorporation and bylaws and certain provisions of Delaware law, and is a summary and is qualified in its entirety by reference to our certificate of incorporation, bylaws and the Delaware General Corporation Law (the "DGCL"). The Common Stock is the only security of the Company registered pursuant to Section 12 of the Exchange Act. If we so indicate in a prospectus supplement, the terms of any security offered under that prospectus supplement may differ from the terms we describe below.

Our amended and restated certificate of incorporation, or our certificate of incorporation, provides for one class of Common Stock. In addition, our certificate of incorporation authorizes shares of undesignated preferred stock, the rights, preferences and privileges of which may be designated from time to time by our board of directors.

Our authorized capital stock consists of 45,000,000 shares, all with a par value of \$0.0001 per share, of which:

- 43,000,000 shares are designated as Common Stock;
- 2,000,000 shares are designated as preferred stock, of which:
 - o 2,269.1494 shares are designated to be Series A Preferred Stock;
 - o 284.2638 shares are designated to be Series A-1 Preferred Stock; and
 - o 190.0572 shares are designated to be Series A-2 Preferred Stock.

As of September 30, 2025, we had outstanding 2,293,162 shares of Common Stock, held by 108 stockholders of record. Further, as of September 30, 2025, (i) there were warrants outstanding for the purchase of 7,755 shares of Common Stock with an average exercise price of \$279.77 per share, of which all are vested and exercisable; (ii) 176,430 shares of our Common Stock were issuable upon exercise of outstanding options, at a weighted average exercise price of \$48.12 per share, of which 78,910 shares were vested as of such date; (iii) 11,700 shares of our Common Stock were issuable upon the exercise of outstanding non-qualified options for which upon exercise will be unregistered, at an exercise price of \$250.00 per share, of which all were vested and exercisable as of such date; and (iv) 14,682 shares of our Common Stock were reserved for future issuance under our Amended and Restated 2020 Equity Incentive Plan.

As of September 30, 2025, we have authorized, issued and outstanding 2,269.1494 shares of Series A Preferred Stock, 284.2638 shares of Series A-1 Preferred Stock, 190.0572 shares of Series A-2 Preferred Stock and 1,997,256.5296 authorized but unissued shares of preferred stock.

Common Stock

Voting Rights

Each holder of our Common Stock is entitled to one vote for each share on all matters submitted to a vote of the stockholders, and do not have cumulative voting rights. Elections of directors by holders of our Common Stock is determined by a plurality of the votes cast by the stockholders entitled to vote in the election. Subject to the supermajority votes for some matters, other matters are decided by the affirmative vote of our stockholders having a majority in voting power of the votes cast by the stockholders present or represented and voting on such matter.

Dividends

Holders of Common Stock are entitled to receive proportionately any dividends as may be declared by our board of directors, subject to any preferential dividend rights of any series of preferred stock that we may designate and issue in the future.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of Common Stock will be entitled to share ratably in the net assets legally available for distribution to stockholders after the payment of all of our debts and other liabilities and the satisfaction of any liquidation preference granted to the holders of any then-outstanding shares of preferred stock.

Rights and Preferences

Holders of Common Stock have no preemptive, conversion or subscription rights and there are no redemption or sinking fund provisions applicable to the Common Stock. The rights, preferences and privileges of the holders of 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.

Anti-Takeover Effect of Delaware Law and Our Certain Charter and Bylaw Provisions

Some provisions of our certificate of incorporation and bylaws make the following transactions more difficult: an acquisition of us by means of a tender offer; an acquisition of us by means of a proxy contest or otherwise; or the removal of our incumbent officers and directors. It is possible that these provisions could make it more difficult to accomplish or could deter transactions that stockholders may otherwise consider to be in their best interest or in our best interests, including transactions which provide for payment of a premium over the market price for our shares.

These provisions, 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.

Authorized but Unissued Shares

Our authorized but unissued shares of Common Stock and preferred stock are available for future issuance without stockholder approval. These additional shares may be utilized for a variety of corporate purposes, including future public offerings to raise additional capital and corporate acquisitions. The existence of authorized but unissued shares of Common Stock and preferred stock could render more difficult or discourage an attempt to obtain control of a majority of our Common Stock by means of a proxy contest, tender offer, merger or otherwise.

Stockholder Meetings

Any action to be taken by our stockholders must be effected at a duly called annual or special meeting of stockholders and not be taken by written consent.

Requirements for Advance Notification of Stockholder Nominations and Proposals

Stockholders seeking to present proposals before a meeting of stockholders or to nominate candidates for election as directors at a meeting of stockholders must provide advance notice in writing, and also specify requirements as to the form and content of a stockholder's notice.

Anti-Takeover Effects of Provisions of Delaware Law

We are subject to Section 203 of the DGCL, which prohibits a Delaware corporation from engaging in any business combination with any interested stockholder for a period of three years after the date that such stockholder became an interested stockholder unless the business combination is, or the transaction in which the person became an interested stockholder was, approved in a prescribed manner or another prescribed exception applies. In general, Section 203 defines an "interested stockholder" as an entity or person who, together with the person's affiliates and associates, beneficially owns, or within three years prior to the time of determination of interested stockholder status did own, 15% or more of the outstanding voting stock of the corporation. In general, a "business combination" includes a merger, asset or stock sale, or other transaction resulting in a financial benefit to the interested stockholder. The existence of this provision may have an anti-takeover effect with respect to transactions not approved in advance by the board of directors.

Exclusive Forum Selection

Our certificate of incorporation provides that, unless we consent in writing to the selection of an alternative forum, the Court of Chancery of the State of Delaware (or, if the Court of Chancery of the State of Delaware does not have jurisdiction, the federal district court for the District of Delaware) shall, to the fullest extent permitted by law, be the sole and exclusive forum for the following claims or causes of action under the Delaware statutory or common law: (A) any derivative claim or cause of action brought on behalf of the Company; (B) any claim or cause of action for breach of a fiduciary duty owed by any current or former director, officer or other employee of the Company, to the Company or the Company's stockholders; (C) any claim or cause of action against the Company or any current or former director, officer or other employee of the Company, arising out of or pursuant to any provision of the DGCL, the certificate of incorporation or the bylaws of the Company (as each may be amended from time to time); (D) any claim or cause of action seeking to interpret, apply, enforce or determine the validity the certificate of incorporation or the bylaws of the Company (as each may be amended from time to time, including any right, obligation, or remedy thereunder); (E) any claim or cause of action as to which the DGCL confers jurisdiction on the Court of Chancery of the State of Delaware; and (F) any claim or cause of action against the Company or any current or former director, officer or other employee of the Company, governed by the internal-affairs doctrine, in all cases to the fullest extent permitted by law and subject to the court having personal jurisdiction over the indispensable parties named as defendants. This exclusive forum provision would not apply to suits brought to enforce any liability or duty created by the Securities Act of 1933, as amended (the "Securities Act") or the Exchange Act or any other claim for which the federal courts have exclusive jurisdiction. To the extent that any such claims may be based upon federal law claims, Section 27 of the Exchange Act creates exclusive federal jurisdiction over all suits brought to enforce any duty or liability created by the Exchange Act or the rules and regulations thereunder. Furthermore, Section 22 of the Securities Act creates concurrent jurisdiction for federal and state courts over all suits brought to enforce any duty or liability created by the Securities Act or the rules and regulations thereunder. Although our restated certificate contains the choice of forum provision described above, it is possible that a court could rule that such a provision is inapplicable for a particular claim or action or that such provision is unenforceable.

Advance Notice Requirements

Our bylaws establish an advance notice procedure for stockholder proposals to be brought before an annual meeting of our stockholders, including proposed nominations of persons for election to the board of directors. Stockholders at an annual meeting will only be able to consider proposals or nominations specified in the notice of meeting or brought before the meeting by or at the direction of the board of directors or by a stockholder who was a stockholder of record on the record date for the meeting, who is entitled to vote at the meeting and who has given our Secretary timely written notice, in proper form, of the stockholder's intention to bring that business before the meeting. Although our bylaws do not give the board of directors the power to approve or disapprove stockholder nominations of candidates or proposals regarding other business to be conducted at a special or annual meeting, our bylaws may have the effect of precluding the conduct of certain business at a meeting if the proper procedures are not followed or may discourage or deter a potential acquirer from conducting a solicitation of proxies to elect its own slate of directors or otherwise attempting to obtain control of us.

Transfer Agent and Registrar

Broadridge Corporate Issuer Solutions, Inc. is the transfer agent and registrar for our Common Stock.

Preferred Stock

Under the terms of our certificate of incorporation, our board of directors have the authority, without further action by our stockholders, to issue up to 2,000,000 shares of preferred stock in one or more series, to establish from time to time the number of shares to be included in each such series, to fix the rights, preferences and privileges of the shares of each wholly unissued series and any qualifications, limitations or restrictions thereon, and to increase or decrease the number of shares of any such series, but not below the number of shares of such series then outstanding. The powers, preferences and relative, participating, optional and other special rights of each series of preferred stock, and the qualifications, limitations or restrictions thereof, if any, may differ from those of any and all other series at any time outstanding.

Series A Preferred Stock

The board of directors designated 2,269.1494 of the 2,000,000 shares of preferred stock to be Series A Preferred Stock.

Holders of Series A Preferred Stock received, and the Company paid, one-time payment-in-kind dividends in the aggregate amount of 55.345 shares of Series A Preferred Stock.

Except as otherwise required by law, the Series A Preferred Stock does not have voting rights. However, as long as any shares of Series A Preferred Stock are outstanding, the Company may not, without the affirmative vote of the holders of a majority of the then-outstanding shares of the Series A Preferred Stock, (i) alter or change adversely the powers, preferences or rights given to the Series A Preferred Stock or alter or amend the Certificate of Designation of Series A Preferred Stock ("Series A Certificate of Designation"), amend or repeal any provision of, or add any provision to, the certificate of incorporation or bylaws, or file any articles of amendment, certificate of designations, preferences, limitations and relative rights of any series of preferred stock, if such action would adversely alter or change the preferences, rights, privileges or powers of, or restrictions provided for the benefit of the Series A Preferred Stock, regardless of whether any of the foregoing actions shall be by means of amendment to the certificate of incorporation or by merger, consolidation, recapitalization, reclassification, conversion or otherwise, (ii) issue further shares of Series A Preferred Stock, or increase or decrease (other than by conversion) the number of authorized shares of Series A Preferred Stock (iii) prior to the Stockholder Approval (as defined in the Series A Certificate of Designation) or at any time while at least 30% of the originally issued Series A Preferred Stock remains issued and outstanding, consummate either: (A) any Fundamental Transaction (as defined in the Series A Certificate of Designation) or (B) any merger or consolidation of the Company with or into another entity or any stock sale to, or other business combination in which the stockholders of the Company immediately before such transaction do not hold at least a majority of the capital stock of the Company immediately after such transaction, or (iv) enter into any agreement with respect to any of the foregoing.

The Series A Preferred Stock shall rank on parity with the Common Stock as to distributions of assets upon liquidation, dissolution or winding-up of the Company, whether voluntarily or involuntarily.

Following stockholder approval of the Conversion Proposal, each share of Series A Preferred Stock will automatically convert into 10,000 shares of Common Stock, subject to certain limitations provided in the Series A Certificate of Designation, including that the Company shall not affect any conversion of Series A Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion (the "Series A Beneficial Ownership Limitation"); provided, however, that the Series A Beneficial Ownership Limitation will not apply to certain cash settlements after the stockholder approval of a change of control and upon the occurrence of certain other events as set forth in the Series A Certificate of Designation.

If at any time following the earliest of (a) Stockholder Approval (as defined in the Series A Certificate of Designation), (b) the interim analysis of the Phase 2b study for Halneuron® proves futile, (c) Dogwood is delisted from Nasdaq, (d) the interim analysis of the Phase 2b study for Halneuron® is not completed by December 31, 2025, or (e) by June 30, 2026, the Company fails to deliver to a holder certificates representing shares of Common Stock or electronically deliver such shares, the Series A Preferred Stock is redeemable for cash at the option of the holder thereof at a price per share equal to the then-current Fair Value (as defined and described in the Series A Certificate of Designation Preferred Stock) of the Series A Preferred Stock for any undeliverable shares.

Series A-1 Preferred Stock

The board of directors designated 284.2638 shares of the 2,000,000 shares of preferred stock to be Series A-1 Preferred Stock in connection with the Exchange and Cancellation Agreement.

Holders of Series A-1 Preferred Stock are not entitled to receive dividends on shares of Series A-1 Preferred Stock. Except as otherwise required by law, the Series A-1 Preferred Stock does not have voting rights. However, as long as any shares of Series A-1 Preferred Stock are outstanding, the Company will not, without the affirmative vote of the holders of a majority of the then-outstanding shares of the Series A-1 Preferred Stock, (i) alter or change adversely the powers, preferences or rights given to the Series A-1 Preferred Stock or alter or amend the Certificate of Designation of Series A-1 Preferred Stock ("Series A-1 Certificate of Designation"), amend or repeal any provision of, or add any provision to, the certificate of incorporation or bylaws, or file any articles of amendment, certificate of designations, preferences, limitations and relative rights of any series of preferred stock, if such action would adversely alter or change the preferences, rights, privileges or powers of, or restrictions provided for the benefit of the Series A-1 Preferred Stock, regardless of whether any of the foregoing actions shall be by means of amendment to the certificate of incorporation or by merger, consolidation, recapitalization, reclassification, conversion or otherwise, (ii) issue further shares of Series A-1 Preferred Stock, or increase or decrease (other than by conversion) the number of authorized shares of Series A-1 Preferred Stock (iii) prior to the Stockholder Approval (as defined in the Series A-1 Certificate of Designation) or at any time while at least 30% of the originally issued Series A-1 Preferred Stock remains issued and outstanding, consummate either: (A) any Fundamental Transaction (as defined in the Series A-1 Certificate of Designation) or (B) any merger or consolidation of the Company with or into another entity or any stock sale to, or other business combination in which the stockholders of the Company immediately before such transaction do not hold at least a majority of the capital stock of the Company immediately after such transaction, or (iv) enter into any agreement with respect to any of the foregoing.

The Series A-1 Preferred Stock shall rank on parity with the Common Stock as to distributions of assets upon liquidation, dissolution or winding-up of the Company, whether voluntarily or involuntarily.

Following the stockholder approval of the conversion of shares of Series A-1 Preferred Stock into shares of Common Stock in accordance with the rules of the Nasdaq Stock Market LLC, each share of Series A-1 Preferred Stock will automatically convert into 10,000 shares of Common Stock, subject to certain limitations provided in the Series A-1 Certificate of Designation, including that the Company shall not affect any conversion of Series A-1 Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion (the "Series A-1 Beneficial Ownership Limitation"); provided, however, that the Series A-1 Beneficial Ownership Limitation will not apply to certain cash settlements after the stockholder approval of a "change of control" under Nasdaq Listing Rules 5110 and 5635(b) and upon the occurrence of certain other events as set forth in the Certificate of Designation of Series A-1 Preferred Stock.

Series A-2 Preferred Stock

The board of directors designated 190.0572 shares of the 2,000,000 shares of preferred stock to be Series A-2 Preferred Stock in connection with the Licensing Agreement.

Holders of Series A-2 Preferred Stock are not entitled to receive dividends on shares of Series A-2 Preferred Stock. Except as otherwise required by law, the Series A-2 Preferred Stock does not have voting rights. However, as long as any shares of Series A-2 Preferred Stock are outstanding, the Company will not, without the affirmative vote of the holders of a majority of the then-outstanding shares of the Series A-2 Preferred Stock, (i) alter or change adversely the powers, preferences or rights given to the Series A-2 Preferred Stock or alter or amend the Certificate of Designation of Series A-2 Preferred Stock ("Series A-2 Certificate of Designation"), amend or repeal any provision of, or add any provision to, the certificate of incorporation or bylaws, or file any articles of amendment, certificate of designations, preferences, limitations and relative rights of any series of preferred stock, if such action would adversely alter or change the preferences, rights, privileges or powers of, or restrictions provided for the benefit of the Series A-2 Preferred Stock, regardless of whether any of the foregoing actions shall be by means of amendment to the certificate of incorporation or by merger, consolidation, recapitalization, reclassification, conversion or otherwise, (ii) issue further shares of Series A-2 Preferred Stock, or increase or decrease (other than by conversion) the number of authorized shares of Series A-2 Preferred Stock (iii) prior to the Stockholder Approval (as defined in the Series A-2 Certificate of Designation) or at any time while at least 30% of the originally issued Series A-2 Preferred Stock remains issued and outstanding, consummate either: (A) any Fundamental Transaction (as defined in the Series A-2 Certificate of Designation) or (B) any merger or consolidation of the Company with or into another entity or any stock sale to, or other business combination in which the stockholders of the Company immediately before such transaction do not hold at least a majority of the capital stock of the Company immediately after such transaction, or (iv) enter into any agreement with respect to any of the foregoing.

The Series A-2 Preferred Stock shall rank on parity with the Common Stock as to distributions of assets upon liquidation, dissolution or winding-up of the Company, whether voluntarily or involuntarily.

Following the stockholder approval of the conversion of shares of Series A-2 Preferred Stock into shares of Common Stock in accordance with the rules of the Nasdaq Stock Market LLC, each share of Series A-2 Preferred Stock will automatically convert into 10,000 shares of Common Stock, subject to certain limitations provided in the Series A-2 Certificate of Designation, including that the Company shall not affect any conversion of Series A-2 Preferred Stock into shares of Common Stock if, as a result of such conversion, such holder, together with its affiliates, would beneficially own more than a specified percentage of the total number of shares of Common Stock issued and outstanding immediately after giving effect to such conversion (the "Series A-2 Beneficial Ownership Limitation" and, together with the Series A Beneficial Ownership Limitation and the Series A-1 Beneficial Ownership Limitation, the "Beneficial Ownership Limitations"); provided, however, that the Series A-2 Beneficial Ownership Limitation will not apply after the stockholder approval of a "change of control" under Nasdaq Listing Rules 5110 and 5635(b) and upon the occurrence of certain other events as set forth in the Series A-2 Certificate of Designation.

Other Preferred Stock

Our board of directors may authorize the issuance of additional preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our Common Stock and/or our existing preferred stock. The purpose of authorizing our board of directors to issue preferred stock and determine its rights and preferences is to eliminate delays associated with a stockholder vote on specific issuances. The issuance of additional preferred stock, while providing flexibility in connection with possible acquisitions and other corporate purposes, could, among other things, have the effect of delaying, deferring or preventing a change in control of the Company and may adversely affect the market price of our Common Stock and the voting and other rights of the holders of our Common Stock and/or our existing preferred stock. It is not possible to state the actual effect of the issuance of any additional shares of preferred stock on the rights of holders of Common Stock and/or our existing preferred stock until the board of directors determines the specific rights attached to that preferred stock.

See "*Description of Capital Stock—Anti-Takeover Effect of Delaware Law and Our Certain Charter and Bylaw Provisions*" above for a discussion of certain provisions of our certificate of incorporation and bylaws and the DGCL that may affect the terms of preferred stock.

SELLING STOCKHOLDERS

We are registering for resale the Shares by the Selling Stockholders. We are registering the Shares to permit each Selling Stockholder and its pledgees, transferees and other successors-in-interest that receive Shares from such Selling Stockholder as a gift, partnership distribution or other non-sale related transfer after the date of this prospectus to resell the Shares when and as they deem appropriate in the manner described in the "*Plan of Distribution*." The following table sets forth:

- the name and address of each Selling Stockholder;
- the number of shares of Common Stock that each Selling Stockholder beneficially owned prior to the offering for resale of the Shares under this prospectus;
- the maximum number of Shares that may be offered for resale for the account of each Selling Stockholder under this prospectus; and
- the number and percentage of shares of Common Stock to be beneficially owned by each Selling Stockholder after the offering of the Shares (assuming all of the offered Shares are sold by such Selling Stockholder).

No Selling Stockholder has been an officer or director of us or any of our predecessors or affiliates within the last three years. Except for (i) the Share Exchange Agreement, (ii) the Exchange and Cancellation Agreement, (iii) the Licensing Agreement, (iv) a Loan Agreement, dated as of October 7, 2024 by and between the Company and Conjoint, (v) Tungsten's role as the financial advisor to the Company in connection with the Combination and (vi) Tungsten's services in connection with the Licensing Agreement, no Selling Stockholder has had a material relationship with us within the last three years. Excluding Tungsten, no Selling Stockholder is a broker-dealer or an affiliate of a broker-dealer who should be identified as an underwriter.

This table is prepared based on information supplied to us by the Selling Stockholders, and reflects holdings as of September 30, 2025. Each Selling Stockholder may offer for sale all or part of their Shares from time to time. The table below assumes that the Selling Stockholders will sell all of the Shares offered for sale. The Selling Stockholders are under no obligation, however, to sell any Shares pursuant to this prospectus.

Beneficial ownership is determined in accordance with the rules and regulations of the SEC. In computing the number of shares beneficially owned by a person and the percentage ownership of that person, securities that are currently convertible or exercisable into our Common Stock, or convertible or exercisable within 60 days following the date of this prospectus, are deemed beneficially owned by such person.

Name of Selling Stockholder	Common Stock Beneficially Owned Prior to Offering	Maximum Number of Shares to be Sold ⁽¹⁾	Common Stock Beneficially Owned After Offering ⁽²⁾	Percentage Ownership After Offering ⁽¹⁾⁽²⁾⁽³⁾
Conjoint Inc. ⁽⁴⁾	0	2,842,638	0	0%
Sealbond Limited ⁽⁵⁾	211,383	21,822,333	0	0%
Serpin Pharma, Inc. ⁽⁶⁾	191,017	1,086,956	0	0%
Rejuvenation Labs, Inc. ⁽⁷⁾	191,017	1,086,956	0	0%
Finalis Securities LLC ⁽⁸⁾	100	10,364	0	0%
Romy Seth ⁽⁹⁾	5,234	594,721	0	0%
Lacarya Scott ⁽¹⁰⁾	5,234	594,721	0	0%

(1) Each series of Preferred Stock is subject to the applicable Beneficial Ownership Limitation. See "*Description of Capital Stock—Preferred Stock*."

(2) Assumes the sale of all of the Shares being offered pursuant to this prospectus.

(3) Percentage is based on 2,293,162 shares of our Common Stock outstanding as of September 30, 2025.

- (4) The address for Conjoint Inc. is 7th Floor, Cheung Kong Center 2 Queen's Road Central Hong Kong. CK Life Sciences Int'l., (Holdings) Inc., a company incorporated in the Cayman Islands with limited liability holds voting and dispositive power over the securities held by Conjoint.
- (5) The address for Sealbond Limited is 7th Floor, Cheung Kong Center 2 Queen's Road Central Hong Kong. CK Life Sciences Int'l., (Holdings) Inc., a company incorporated in the Cayman Islands with limited liability holds voting and dispositive power over the securities held by Sealbond.
- (6) The address for Serpin Pharma, Inc. is 9501 Discovery Boulevard, Suite 120, Manassas, Virginia 20109.
- (7) The address for Rejuvenation Labs, Inc. is 14645 Sulky Run Court, Nokesville, Virginia 20181. Rejuvenation Labs, Inc.'s sole shareholder, Cohava Gelber, holds voting and dispositive power over the securities held by Rejuvenation Labs, Inc.
- (8) The address for Finalis Securities LLC is 228 Park Avenue South, Suite 85550, New York, New York 10003. Federico Baradello holds voting and dispositive power over the securities held by Finalis Securities LLC.
- (9) The address for Romy Seth is 1182 Broadway 13A, New York, New York 10001.
- (10) The address for Lacarya Scott is 3951 Stansbury Avenue, Sherman Oaks, California 91423.

PLAN OF DISTRIBUTION

Each Selling Stockholder and any of its pledgees, donees, assignees and successors-in-interest may, from time to time, sell any or all of its Shares being offered under this prospectus on any stock exchange, market or trading facility on which Shares of our Common Stock are traded or in private transactions. These sales may be at fixed or negotiated prices. Each Selling Stockholder may use any one or more of the following methods when disposing of the Shares:

- ordinary brokerage transactions and transactions in which the broker-dealer solicits purchasers;
- block trades in which the broker-dealer will attempt to sell the shares 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 resales by the broker-dealer for its account;
- an exchange distribution in accordance with the rules of the applicable exchange;
- privately negotiated transactions;
- to cover short sales made after the date that the registration statement of which this prospectus is a part is declared effective by the SEC;
- broker-dealers may agree with the Selling Stockholder to sell a specified number of such shares at a stipulated price per share;
- firm commitment underwritten transactions;
- a combination of any of these methods of sale; and
- any other method permitted pursuant to applicable law.

The Shares may also be sold under Rule 144 under the Securities Act, if available for the applicable Selling Stockholder, rather than under this prospectus. Each Selling Stockholder has the sole and absolute discretion not to accept any purchase offer or make any sale of Shares if it deems the purchase price to be unsatisfactory at any particular time.

A Selling Stockholder may pledge its Shares to its brokers under the margin provisions of customer agreements. If a Selling Stockholder defaults on a margin loan, the broker may, from time to time, offer and sell the pledged Shares.

Broker-dealers engaged by a Selling Stockholder may arrange for other broker-dealers to participate in sales. Broker-dealers may receive commissions or discounts from such Selling Stockholder (or, if any broker-dealer acts as agent for the purchaser of shares, from the purchaser) in amounts to be negotiated, which commissions as to a particular broker or dealer may be in excess of customary commissions to the extent permitted by applicable law.

If sales of Shares offered under this prospectus are made to broker-dealers as principals, we would be required to file a post-effective amendment to the registration statement of which this prospectus is a part. In the post-effective amendment, we would be required to disclose the names of any participating broker-dealers and the compensation arrangements relating to such sales.

A Selling Stockholder and any broker-dealers or agents that are involved in selling the Shares offered under this prospectus may be deemed to be "underwriters" within the meaning of the Securities Act in connection with these sales. Commissions received by these broker-dealers or agents and any profit on the resale of the Shares purchased by them may be deemed to be underwriting commissions or discounts under the Securities Act. Any broker-dealers or agents that are deemed to be underwriters may not sell Shares offered under this prospectus unless and until we set forth the names of the underwriters and the material details of their underwriting arrangements in a supplement to this prospectus or, if required, in a replacement prospectus included in a post-effective amendment to the registration statement of which this prospectus is a part.

The Selling Stockholders and any other persons participating in the sale or distribution of the Shares offered under this prospectus will be subject to applicable provisions of the Exchange Act, and the rules and regulations under that act, including Regulation M. These provisions may restrict activities of, and limit the timing of purchases and sales of any of the Shares by, a Selling Stockholder or any other person. Furthermore, under Regulation M, persons engaged in a distribution of securities are prohibited from simultaneously engaging in market making and other activities with respect to those securities for a specified period of time prior to the commencement of such distributions, subject to specified exceptions or exemptions. All of these limitations may affect the marketability of the Shares.

If any of the Shares offered for sale pursuant to this prospectus are transferred other than pursuant to a sale under this prospectus, then subsequent holders could not use this prospectus until a post-effective amendment or prospectus supplement is filed, naming such holders. We offer no assurance as to whether any of the Selling Stockholders will sell all or any portion of the Shares offered under this prospectus.

The Company will pay all fees and expenses incident to the registration of the Shares being offered under this prospectus. Each Selling Stockholder is responsible for paying any discounts, commissions and similar selling expenses it incurs.

We and the Selling Stockholders have agreed to indemnify one another against certain losses, damages and liabilities arising in connection with this prospectus, including liabilities under the Securities Act.

The Shares will be sold only through registered or licensed brokers or dealers if required under applicable state securities laws. In addition, in certain states, the Shares 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.

LEGAL MATTERS

Unless otherwise indicated in the applicable prospectus supplement, the validity of the securities offered hereby will be passed upon for us by Duane Morris LLP. If the validity of the securities offered hereby in connection with offerings made pursuant to this prospectus are passed upon by counsel for the underwriters, dealers or agents, if any, such counsel will be named in the prospectus supplement relating to such offering.

EXPERTS

The consolidated financial statements of Dogwood Therapeutics, Inc. (the "Company") as of December 31, 2024 and 2023 for each of the years in the two-year period ended December 31, 2024, have been audited by Forvis Mazars, LLP, independent registered public accounting firm, as set forth in their report thereon, included in Company's [Annual Report on Form 10-K for the fiscal year ended December 31, 2024](#), and incorporated herein by reference. Such consolidated financial statements have been incorporated herein by reference in reliance upon such report given on the authority of such firm as experts in accounting and auditing.

The report of Forvis Mazars, LLP contains an explanatory paragraph regarding substantial doubt about the Company's ability to continue as a going concern.

LIMITATION ON LIABILITY AND DISCLOSURE OF COMMISSION POSITION ON INDEMNIFICATION OF SECURITIES ACT LIABILITIES

Our certificate of incorporation and bylaws provide that we will indemnify our directors and officers, and may indemnify any other person, to the extent our board of directors deems advisable, to the fullest extent permitted by Delaware law. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons pursuant to the foregoing provisions, or otherwise, we have been advised that, in the opinion of the SEC, such indemnification is against public policy as expressed in the Securities Act and is therefore unenforceable.

WHERE YOU CAN FIND MORE INFORMATION

This prospectus and any subsequent prospectus supplements do not contain all of the information in the registration statement. We have omitted from this prospectus some parts of the registration statement as permitted by the rules and regulations of the SEC. Statements in this prospectus concerning any document we have filed as an exhibit to the registration statement or that we otherwise filed with the SEC are not intended to be comprehensive and are qualified in their entirety by reference to these filings. In addition, we file annual, quarterly and current reports, proxy statements and other information with the SEC. The SEC maintains an Internet site that contains reports, proxy and information statements and other information that we file electronically with the SEC, including us. The SEC's Internet site can be found at <http://www.sec.gov>. In addition, we make available copies of these reports on or through our Internet site at www.dwtx.com as soon as reasonably practicable after we electronically file or furnished them to the SEC. The information contained on, or that can be accessed through, our website is not incorporated by reference into this prospectus. We have included our web address as an inactive textual reference only.

INFORMATION INCORPORATED BY REFERENCE

We have elected to incorporate certain information by reference into this prospectus. By incorporating by reference, we can disclose important information to you by referring you to other documents we have filed or will file with the SEC. The information incorporated by reference is deemed to be part of this prospectus and information in documents that we file later with the SEC will automatically update and supersede information contained in documents filed earlier with the SEC or contained in this prospectus. This means that you must look at all of the SEC filings that we incorporate by reference to determine if any statements in the prospectus or any document previously incorporated by reference have been modified or superseded. This prospectus incorporates by reference the documents set forth below that we have previously filed with the SEC under the Exchange Act:

- our Annual Report on [Form 10-K for the fiscal year ended December 31, 2024, filed with the SEC on March 31, 2025](#);
- our [Quarterly Report on Form 10-Q for the fiscal quarter ended March 31, 2025, filed with the SEC on May 9, 2025](#), and our [Quarterly Report on Form 10-Q for the fiscal quarter ended June 30, 2025, filed with the SEC on August 13, 2025](#);
- our Current Reports on Form 8-K, filed with the SEC on [March 12, 2025](#), [March 14, 2025](#), [April 3, 2025](#), [June 24, 2025](#), [July 2, 2025](#) and [September 29, 2025](#);
- the description of our Common Stock set forth in the Registration Statement on [Form 8-A, filed with the SEC on December 16, 2020](#), including any amendment or report filed for the purpose of updating such description; and
- our [Definitive Proxy Statement on Schedule 14A filed with the SEC on April 30, 2025](#), in connection with our 2025 Annual Meeting of Stockholders, but only to the extent incorporated by reference in our Annual Report on Form 10-K for the year ended December 31, 2024.

We also incorporate by reference any future filings (other than current reports furnished under Item 2.02 or Item 7.01 of Form 8-K and exhibits filed on such form that are related to such items unless such Form 8-K expressly provides to the contrary) made with the SEC pursuant to Sections 13(a), 13(c), 14 or 15(d) of the Exchange Act, including those made after the date of the initial filing of the registration statement of which this prospectus is a part and prior to effectiveness of such registration statement, until we file a post-effective amendment that indicates the termination of the offering of the securities made by this prospectus, which will become a part of this prospectus from the date that such documents are filed with the SEC. Information in such future filings updates and supplements the information provided in this prospectus. Any statements in any such future filings will automatically be deemed to modify and supersede any information in any document we previously filed with the SEC that is incorporated or deemed to be incorporated herein by reference to the extent that statements in the later-filed document modify or replace such earlier statements. We will furnish without charge to each person, including any beneficial owner, to whom a prospectus is delivered, upon written or oral request, a copy of any or all of the documents incorporated by reference into this prospectus but not delivered with the prospectus, including exhibits that are specifically incorporated by reference into such documents. In addition, copies of any or all of the documents incorporated by reference herein may be accessed at our website at www.dwtx.com. You should direct any requests for documents to:

Dogwood Therapeutics, Inc.
44 Milton Avenue
Alpharetta, GA 30009
(866) 620-8655
Attention: Corporate Secretary and Treasurer

PROSPECTUS

28,038,689 Shares of Common Stock



, 2025

PART II
INFORMATION NOT REQUIRED IN PROSPECTUS

Item 14. Other Expenses of Issuance and Distribution.

The following table sets forth our costs and expenses in connection with the registration of our securities as described in this registration statement. All of the amounts shown are estimates except the Commission Registration Fee.

	AMOUNT
SEC registration fee	\$ 19,786.85
Legal fees and expenses	30,000.00
Accounting fees and expenses	25,000.00
Transfer agent fees and expenses	-
Miscellaneous expenses	7,400.00
Total	\$ 82,186.65

Item 15. Indemnification of Directors and Officers.

We are incorporated under the laws of the State of Delaware. Section 102(b)(7) of the DGCL, provides that a corporation may, in its original certificate of incorporation or an amendment thereto, eliminate or limit the personal liability of a director for violations of the director's fiduciary duty, except (1) for any breach of the director's duty of loyalty to the corporation or its stockholders, (2) for acts or omissions not in good faith or which involve intentional misconduct or a knowing violation of law, (3) pursuant to Section 174 of the DGCL, which provides for liability of directors for unlawful payments of dividends or unlawful stock purchases or redemptions or (4) for any transaction from which a director derived an improper personal benefit.

Section 145 of the DGCL provides that a corporation may indemnify any person, including an officer or director, who is, or is threatened to be made, party to any threatened, pending or completed legal action, suit or proceeding, whether civil, criminal, administrative or investigative, other than an action by or in the right of such corporation, by reason of the fact that such person was an officer, director, employee or agent of such corporation or is or was serving at the request of such corporation as an officer, director, employee or agent of another corporation or enterprise. The indemnity may include expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred by such person in connection with such action, suit or proceeding, provided such officer, director, employee or agent acted in good faith and in a manner he reasonably believed to be in, or not opposed to, the corporation's best interest and, for criminal proceedings, had no reasonable cause to believe that his conduct was unlawful. A Delaware corporation may indemnify any officer or director in an action by or in the right of the corporation under the same conditions, except that no indemnification is permitted without judicial approval if the officer or director is adjudged to be liable to the corporation. Where an officer or director is successful on the merits or otherwise in the defense of any action referred to above, the corporation must indemnify him against the expenses that such officer or director actually and reasonably incurred.

Our certificate of incorporation as currently in effect provides that none of our directors shall be personally liable to us or to our stockholders for monetary damages for any breach of fiduciary duty as a director, notwithstanding any provision of law imposing such liability, except to the extent that the General Corporation Law of the State of Delaware prohibits the elimination or limitation of liability of directors for breaches of fiduciary duty.

Our certificate of incorporation further provides that we will indemnify each person who was or is a party or threatened to be made a party to any threatened, pending or completed action, suit or proceeding (other than an action by or in the right of us) by reason of the fact that he or she is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise (all such persons being referred to as an "Indemnitee"), or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees), judgments, fines and amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding and any appeal therefrom, if such Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, and, with respect to any criminal action or proceeding, he or she had no reasonable cause to believe his or her conduct was unlawful. Our certificate of incorporation provides that we will indemnify any Indemnitee who was or is a party to an action or suit by or in the right of us to procure a judgment in our favor by reason of the fact that the Indemnitee is or was, or has agreed to become, a director or officer, or is or was serving, or has agreed to serve, at our request as a director, officer, partner, employee or trustee of, or in a similar capacity with, another corporation, partnership, joint venture, trust or other enterprise, or by reason of any action alleged to have been taken or omitted in such capacity, against all expenses (including attorneys' fees) and, to the extent permitted by law, amounts paid in settlement actually and reasonably incurred in connection with such action, suit or proceeding, and any appeal therefrom, if the Indemnitee acted in good faith and in a manner he or she reasonably believed to be in, or not opposed to, our best interests, except that no indemnification shall be made with respect to any claim, issue or matter as to which such person shall have been adjudged to be liable to us, unless a court determines that, despite such adjudication but in view of all of the circumstances, he or she is entitled to indemnification of such expenses. Notwithstanding the foregoing, to the extent that any Indemnitee has been successful, on the merits or otherwise, he or she will be indemnified by us against all expenses (including attorneys' fees) actually and reasonably incurred in connection therewith. Expenses must be advanced to an Indemnitee under certain circumstances.

Our bylaws as currently in effect provide for the indemnification of officers and directors acting on our behalf if this person acted in good faith and in a manner reasonably believed to be in and not opposed to our best interest, and, with respect to any criminal action or proceeding, the indemnified party had no reason to believe his or her conduct was unlawful.

In addition, we have entered into separate indemnification agreements with each of our executive officers and directors. Such agreements may require us, among other things, to advance expenses and otherwise indemnify our executive officers and directors against certain liabilities that may arise by reason of their status or service as executive officers or directors, or any of our subsidiaries or any other company or enterprise to which the person provides at our request, to the fullest extent permitted by law. We intend to enter into indemnification agreements with any new directors and executive officers in the future.

We have purchased and intend to maintain insurance on behalf of us and any person who is or was a director or officer against any loss arising from any claim asserted against him or her and incurred by him or her in that capacity, subject to certain exclusions and limits of the amount of coverage.

Item 16. Exhibits.

Exhibit Number	Description of Document
<u>4.1</u>	<u>Certificate of Designation of Series A Non-Voting Convertible Preferred Stock of Virios Therapeutics, Inc., dated October 7, 2024 (incorporated by reference herein from Exhibit 3.1 to the Company's Current Report on Form 8-K, filed with the SEC on October 7, 2024).</u>
<u>4.2</u>	<u>Certificate of Designation of Series A-1 Non-Voting Convertible Preferred Stock of Dogwood Therapeutics, Inc. (incorporated by reference herein from Exhibit 3.1 to the Company's Current Report on Form 8-K, filed with the SEC on March 12, 2025).</u>
<u>4.3</u>	<u>Certificate of Designation of Series A-2 Non-Voting Convertible Preferred Stock of Dogwood Therapeutics, Inc. (incorporated by reference herein from Exhibit 3.1 to the Company's Current Report on Form 8-K, filed with the SEC on September 29, 2025).</u>
<u>5.1*</u>	<u>Opinion of Duane Morris LLP</u>
<u>23.1*</u>	<u>Consent of Forvis Mazars, LLP, Independent Registered Public Accounting Firm</u>
<u>23.2*</u>	<u>Consent of Duane Morris LLP (included in Exhibit 5.1)</u>
<u>24.1*</u>	<u>Powers of Attorney (included on signature page to this registration statement)</u>
<u>107*</u>	<u>Filing Fee Table</u>

* Filed herewith.

Item 17. Undertakings.

a. The undersigned Registrant hereby undertakes:

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

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

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

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

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

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

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

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

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

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

5. That, for the purpose of determining liability of the Registrant under the Securities Act to any purchaser in the initial distribution of the securities, the undersigned Registrant undertakes that in a primary offering of securities of the undersigned Registrant pursuant to this registration statement, regardless of the underwriting method used to sell the securities to the purchaser, if the securities are offered or sold to such purchaser by means of any of the following communications, the undersigned registrant will be a seller to the purchaser and will be considered to offer or sell such securities to such purchaser:
- i. Any preliminary prospectus or prospectus of the undersigned Registrant relating to the offering required to be filed pursuant to Rule 424;
 - ii. Any free writing prospectus relating to the offering prepared by or on behalf of the undersigned Registrant or used or referred to by the undersigned Registrant;
 - iii. The portion of any other free writing prospectus relating to the offering containing material information about the undersigned Registrant or its securities provided by or on behalf of the undersigned Registrant; and
 - iv. Any other communication that is an offer in the offering made by the undersigned Registrant to the purchaser.
6. The undersigned Registrant hereby undertakes that, for purposes of determining any liability under the Securities Act, each filing of the registrant's annual report pursuant to section 13(a) or section 15(d) of the Exchange Act (and, where applicable, each filing of an employee benefit plan's annual report pursuant to section 15(d) of the Exchange Act) that is incorporated by reference in the Registration Statement shall be deemed to be a new registration statement relating to the securities offered therein, and the offering of such securities at that time shall be deemed to be the initial bona fide offering thereof.
7. Insofar as indemnification for liabilities arising under the Securities Act may be permitted to directors, officers and controlling persons of the Registrant pursuant to the foregoing provisions, or otherwise, the Registrant has been advised that in the opinion of the SEC such indemnification is against public policy as expressed in the Securities Act and is, therefore, unenforceable. In the event that a claim for indemnification against such liabilities (other than the payment by the Registrant of expenses incurred or paid by a director, officer or controlling person of the Registrant in the successful defense of any action, suit or proceeding) is asserted by such director, officer or controlling person in connection with the securities being registered, the Registrant will, unless in the opinion of its counsel the matter has been settled by controlling precedent, submit to a court of appropriate jurisdiction the question whether such indemnification by it is against public policy as expressed in the Securities Act and will be governed by the final adjudication of such issue.
8. If and when applicable, the undersigned Registrant hereby undertakes to file an application for the purpose of determining the eligibility of the trustee to act under subsection (a) of Section 310 of the Trust Indenture Act in accordance with the rules and regulations prescribed by the Securities and Exchange Commission under Section 305(b)(2) of the Trust Indenture Act.

SIGNATURES

Pursuant to the requirements of the Securities Act of 1933, the registrant certifies that it has reasonable grounds to believe that it meets all of the requirements for filing on Form S-3 and has duly caused this registration statement to be signed on its behalf by the undersigned, thereunto duly authorized, in the City of Alpharetta, State of Georgia on October 1, 2025.

DOGWOOD THERAPEUTICS, INC.

By: /s/ Greg Duncan

Name: Greg Duncan

Title: Chairman and Chief Executive Officer

POWER OF ATTORNEY

KNOW ALL PERSONS BY THESE PRESENTS, that each person whose signature appears below hereby severally constitutes and appoints Greg Duncan and Angela Walsh, and each of them singly, as such person's true and lawful attorneys-in-fact and agents, with full power of substitution and resubstitution, for such person and in such person's name, place and stead, in any and all capacities, to sign any and all amendments (including, without limitation, post-effective amendments) to this registration statement (or any registration statement for the same offering that is to be effective upon filing pursuant to Rule 462(b) under the Securities Act of 1933), and to file the same, with all exhibits thereto, and all documents in connection therewith, with the Securities and Exchange Commission, granting unto each said attorney-in-fact and agent, full power and authority to do and perform each and every act and thing requisite and necessary to be done in and about the premises, as fully to all intents and purposes as such person might or could do in person, hereby ratifying and confirming all that any said attorney-in-fact and agent, or any substitute or substitutes of any of them, may lawfully do or cause to be done by virtue hereof.

Pursuant to the requirements of the Securities Act of 1933, as amended, this registration statement has been signed by the following persons in the capacities and on the dates indicated.

Signature	Title	Date
<u>/s/ Greg Duncan</u> Greg Duncan	Chairman of the Board of Directors, and Chief Executive Officer (Principal Executive Officer)	October 1, 2025
<u>/s/ Angela Walsh</u> Angela Walsh	Chief Financial Officer, Corporate Secretary and Treasurer (Principal Financial and Accounting Officer)	October 1, 2025
<u>/s/ Alan Yu</u> Alan Yu	Director	October 1, 2025
<u>/s/ Abel De La Rosa</u> Abel De La Rosa	Director	October 1, 2025
<u>/s/ David Keefer</u> David Keefer	Director	October 1, 2025
<u>/s/ Melvin Toh, M.B.B.S.</u> Melvin Toh, M.B.B.S.	Director	October 1, 2025
<u>/s/ John C. Thomas, Jr.</u> John C. Thomas, Jr.	Director	October 1, 2025
<u>/s/ Richard J. Whitley, MD</u> Richard J. Whitley, M.D.	Director	October 1, 2025

DUANE MORRIS LLP
30 South 17th Street
Philadelphia, PA 19103-4196

October 1, 2025

Dogwood Therapeutics, Inc.
44 Milton Avenue
Alpharetta, GA 30009

Re: Exhibit 5.1 to Registration Statement on Form S-3

Ladies and Gentlemen:

We have acted as counsel to Dogwood Therapeutics, Inc., a Delaware corporation (the “*Company*”), in connection with the Company’s preparation and filing on the date hereof of a registration statement on Form S-3 (the “*Registration Statement*”) with the Securities and Exchange Commission pursuant to the Securities Act of 1933, as amended (the “*Securities Act*”). The Registration Statement relates to the registration of 28,038,689 shares (the “*Shares*”) of common stock, par value \$0.0001 per share (“*Common Stock*”), of the Company to be offered and resold from time to time by the selling stockholders named in the Registration Statement under the heading “Selling Stockholders” (the “*Selling Stockholders*”). You have advised us that the Shares consist of (i) 211,383 shares of Common Stock issued to Sealbond Limited (“*Sealbond*”) pursuant to the Share Exchange Agreement (as defined below); (ii) 21,083,854 shares of Common Stock underlying the Series A Non-Voting Convertible Preferred Stock, par value \$0.0001 (“*Series A Preferred Stock*”), issued to Sealbond pursuant to the Share Exchange Agreement; (iii) 10,568 shares of Common Stock issued to affiliates of Tungsten Partners LLC d/b/a Tungsten Advisors (“*Tungsten*”) in connection with the Share Exchange Agreement; (iv) 1,054,190 shares of Common Stock underlying the Series A Preferred Stock issued to affiliates of Tungsten in connection with the Share Exchange Agreement; (v) 26,354 shares of Common Stock underlying shares of Series A Preferred Stock issued to affiliates of Tungsten as a payment-in-kind dividend on that shares of Series A Preferred Stock referenced in (iv) above; (vi) 527,096 shares of Common Stock underlying shares of Series A Preferred Stock issued to Sealbond as a payment-in-kind dividend on that shares of Series A Preferred Stock referenced in (ii) above; (vii) 2,842,638 shares of Common Stock underlying the Series A-1 Non-Voting Convertible Preferred Stock, par value \$0.0001 (the “*Series A-1 Preferred Stock*”) issued to Conjoint Inc. (“*Conjoint*”) pursuant to the Exchange and Cancellation Agreement (as defined below); (viii) 382,034 shares of Common Stock issued to Serpin Pharma, Inc. (“*Serpin Pharma*”) and Rejuvenation Labs, Inc. (together with Serpin Pharma, “*Serpin*”) pursuant to the Licensing Agreement (as defined below); (ix) 1,791,878 shares of Common Stock underlying the Series A-2 Non-Voting Convertible Preferred Stock, par value \$0.0001 per share (the “*Series A-2 Preferred Stock*”), issued to Serpin pursuant to the Licensing Agreement; and (x) 108,694 shares of Common Stock underlying the Series A-2 Preferred Stock issued to affiliates of Tungsten in connection with the Licensing Agreement. The Shares may be sold from time to time as set forth in the Registration Statement, the prospectus contained therein (the “*Prospectus*”) and any amendments or supplements thereto. This opinion letter is being rendered in accordance with the requirements of Item 601(b)(5) of Regulation S-K under the Securities Act.

DUANE MORRIS LLP

30 SOUTH 17TH STREET

Philadelphia, PA

PHONE: 215.979.1000

FAX: 215.979.1020

For purposes of rendering this opinion letter, we have examined originals or copies (certified or otherwise identified to our satisfaction) of (i) the Registration Statement, (ii) the Prospectus, (iii) the Certificate of Designation of Preferences, Rights and Limitations of the Series A Preferred Stock, (iv) the Certificate of Designation of Preferences, Rights and Limitations of the Series A-1 Preferred Stock; (v) the Certificate of Designation of Preferences, Rights and Limitations of the Series A-2 Preferred Stock, (vi) the Share Exchange Agreement, dated as of October 7, 2024, by and between Pharmagesic (Holdings) Inc, the Company, and Sealbond (the “**Share Exchange Agreement**”), (vii) the Debt Exchange Cancellation Agreement between the Company and Conjoint, dated as of March 12, 2025 (the “**Exchange and Cancellation Agreement**”), (viii) the Licensing Agreement between the Company and Serpin, dated as of September 29, 2025 (the “**Licensing Agreement**”), (ix) the Certificate of Incorporation of the Company, as amended and in effect as of the date hereof, (x) the Company’s Amended and Restated By-Laws in effect as of the date hereof, (xi) the corporate action of the Company’s Board of Directors approving the Registration Statement, and (xii) such corporate records, agreements, documents and other instruments, and such certificates or comparable documents of public officials and of officers and representatives of the Company, and have made such inquiries of such officers and representatives, as we have deemed relevant and necessary as a basis for the opinions hereinafter set forth.

In such examination, we have assumed (i) the genuineness of all signatures, (ii) the legal capacity and competency of all natural persons, (iii) the authenticity of all documents submitted to us as originals, (iv) the conformity to original documents of all documents submitted to us as facsimile, electronic, certified, conformed or other copies and the authenticity of the originals of such documents, (v) that all records and other information made available to us by the Company on which we have relied are true, accurate and complete in all material respects, (vi) that each person signing in a representative capacity (other than on behalf of the Company) any document reviewed by us had authority to sign in such capacity, (vii) that the Registration Statement, and any amendments thereto (including, as applicable, all necessary post-effective amendments thereto), will have become effective under the Securities Act and comply with all applicable laws, (viii) that all Shares will be sold in compliance with federal and state securities laws and in the manner stated in the Registration Statement or any amendment thereto (including post-effective amendments), the Prospectus and any applicable prospectus supplement, and that all applicable provisions of the securities laws of the various jurisdictions in which the Shares may be offered and sold will have been complied with, and (ix) that each certificate from governmental officials reviewed by us is accurate, complete and authentic, and all official public records are accurate and complete.

As to all questions of fact material to these opinions, we have relied solely upon the above-referenced certificates or comparable documents and have not performed or had performed any independent research or investigation of public records as to the facts set forth therein and have assumed that certificates of or other comparable documents from public officials dated prior to the date hereof remain accurate as of the date hereof.

Based on the foregoing, and subject to the limitations, assumptions and qualifications stated herein, we are of the opinion that the Shares are validly issued, fully paid and nonassessable.

The opinion expressed herein is limited to the General Corporation Law of the State of Delaware (the, “**Applicable Laws**”) No opinion is expressed as to the effect on the matters covered by this opinion letter of the laws of (i) Delaware other than the Applicable Laws or (ii) any jurisdiction other than the State of Delaware, whether in any such case applicable directly or through the Applicable Laws. We express no opinion regarding any federal or state securities laws or regulations or as to whether, or the extent to which, the laws of any particular jurisdiction apply to the subject matter hereof. As used herein, the term “General Corporation Law of the State of Delaware” includes the statutory provisions contained therein, all applicable provisions of the Delaware Constitution and reported judicial decisions interpreting these laws.

The Shares may be sold from time to time on a delayed or continuous basis, and the opinions expressed herein are rendered as of the date hereof and are based on existing law, which is subject to change. Where our opinions expressed herein refer to events to occur at a future date, we have assumed that there will have been no changes in the relevant law or facts between the date hereof and such future date. We do not undertake to advise you of any changes in the opinions expressed herein from matters that may hereafter arise or be brought to our attention or to revise or supplement such opinions should the present laws of any jurisdiction be changed by legislative action, judicial decision or otherwise.

Our opinions expressed herein are limited to the matters expressly stated herein, and no opinion is implied or may be inferred beyond the matters expressly stated.

We consent to the filing of this opinion as Exhibit 5.1 to the Registration Statement, and we consent to the reference of our name under the caption “Legal Matters” in the prospectus forming a part of the Registration Statement. In giving this consent, we do not admit that we are “experts” within the meaning of Section 11 of the Securities Act or within the category of persons whose consent is required under Section 7 of the Securities Act.

Very truly yours,

/s/ Duane Morris LLP

Consent of Independent Registered Public Accounting Firm

We consent to the incorporation by reference in this Registration Statement on Form S-3 of Dogwood Therapeutics, Inc. (the “Company”) of our report dated March 31, 2025, with respect to the consolidated financial statements of the Company, included in the Annual Report on Form 10-K for the year ended December 31, 2024. We also consent to the reference to our firm under the caption "Experts" in this Registration Statement.

/s/ Forvis Mazars, LLP

Atlanta, Georgia
October 1, 2025

		Registrant or Filer Name	Form or Filing Type	File Number	Initial Filing Date	Filing Date	Fee Offset Claimed	Security Type Associated with Fee Offset Claimed	Security Title Associated with Fee Offset Claimed	Unsold Securities Associated with Fee Offset Claimed	Unsold Aggregate Offering Amount Associated with Fee Offset Claimed	Fee Paid with Fee Offset Source
Rules 457(b) and 0-11(a)(2)												
Fee Offset Claims	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fee Offset Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Rule 457(p)												

Fee Offset Claims	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Fee Offset Sources	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Table 3: Combined Prospectuses

☒Not Applicable

	Security Type	Security Class Title	Amount of Securities Previously Registered	Maximum Aggregate Offering Price of Securities Previously Registered	Form Type	File Number	Initial Effective Date
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A