

PROSPECTUS SUPPLEMENT
(To the Prospectus Dated June 1, 2021)

KALVISTA PHARMACEUTICALS, INC.



9,484,199 Shares of Common Stock

Pre-Funded Warrants to Purchase up to 182,470 Shares of Common Stock

Pursuant to this prospectus supplement and the accompanying prospectus, we are offering directly 9,484,199 shares of our common stock and pre-funded warrants to purchase 182,470 shares of common stock in lieu of common stock to certain investors that so choose. This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise of such pre-funded warrants

The pre-funded warrants will be immediately exercisable, subject to the limitations described in the section “Description of Pre-Funded Warrants—Exercisability,” and may be exercised at any time after their original issuance. The purchase price of each pre-funded warrant sold in this offering will be equal to the price at which a share of common stock is sold in the offering, minus \$0.001, and the exercise price of each pre-funded warrant will equal \$0.001 per share.

Our common stock is listed on The Nasdaq Global Market under the symbol “KALV.” On December 23, 2022, the last reported sale price of our common stock was \$5.11 per share. We do not intend to list the pre-funded warrants on The Nasdaq Global Market, any other national securities exchange or any other nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants will be limited.

We are a “smaller reporting company” as defined under Rule 405 of the Securities Act of 1933, as amended, and as such, we have elected to comply with certain reduced public company reporting requirements.

Investing in our securities involves a high degree of risk. See “Risk Factors” beginning on page S-7 of this prospectus supplement and under similar headings in the accompanying prospectus and the documents incorporated by reference into this prospectus supplement and accompanying prospectus.

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 this prospectus supplement or the accompanying prospectus. Any representation to the contrary is a criminal offense.

The securities are being sold directly to affiliates of Frazier Life Sciences (“Frazier”), TCG Crossover Fund I, L.P. (“TCGX”), Venrock Healthcare Capital Partners (“Venrock”) and certain other investors pursuant to subscription agreements dated December 23, 2022.

The securities are being offered directly to investors without a placement agent or underwriter. We are not paying underwriting discounts or commissions in connection with the offering. The gross proceeds to us before expenses will be approximately \$58.0 million. We estimate the total expenses of this offering will be approximately \$200,000.

	Per Share	Per Pre-Funded Warrant	Total
Offering price and proceeds, before expenses, to us	\$6.00	\$ 5.999	\$58,999,832

Delivery of the securities is expected to be made on or about December 28, 2022.

The date of this prospectus supplement is December 23, 2022.

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About this Prospectus Supplement

This prospectus supplement and the accompanying prospectus dated May 21, 2021, are part of a registration statement that we filed with the Securities and Exchange Commission (the “SEC”), utilizing a “shelf” registration process. This prospectus supplement and the accompanying prospectus relate to the offer by us of shares of our common stock and pre-funded warrants to certain investors. We provide information to you about this offering of shares of our common stock and pre-funded warrants in two separate documents that are bound together: (1) this prospectus supplement, which describes the specific details regarding this offering; and (2) the accompanying prospectus, which provides general information, some of which may not apply to this offering. Generally, when we refer to this “prospectus,” we are referring to both documents combined. Under this shelf registration process, we may from time to time sell shares of our common stock having an aggregate offering price of up to \$300,000,000 under the accompanying prospectus at prices and on terms to be determined by market conditions at the time of the offering.

On May 21, 2021, we entered into an “at-the-market” program and sales agreement with Cantor Fitzgerald & Co., under which we may, from time to time, offer and sell common stock having an aggregate offering value of up to \$100.0 million, referred to as our “at-the-market” offering with Cantor Fitzgerald & Co. To date, no shares of our common stock have been offered or sold pursuant to this “at-the-market” offering with Cantor Fitzgerald & Co. We may cancel this at-the-market program at any time, pursuant to its terms.

Before buying any of the securities that we are offering, we urge you to carefully read this prospectus supplement, the accompanying prospectus and any free writing prospectus and all of the information incorporated by reference herein and therein, as well as the additional information described under the headings “[Where You Can Find More Information](#)” and “[Incorporation of Documents by Reference](#).” These documents contain important information that you should consider when making your investment decision.

To the extent there is a conflict between the information contained in this prospectus supplement, on the one hand, and the information contained in the accompanying prospectus or any document incorporated by reference herein filed prior to the date of this prospectus supplement, on the other hand, you should rely on the information in this prospectus supplement. If any statement in one of these documents is inconsistent with a statement in another document having a later date (for example, a document incorporated by reference in this prospectus supplement), the statement in the document having the later date modifies or supersedes the earlier statement.

You should rely only on the information contained in or incorporated by reference in this prospectus supplement, the accompanying prospectus, and any related free writing prospectus filed by us with the SEC. We have not authorized anyone to provide you with different information. If anyone provides you with different or inconsistent information, you should not rely on it. This prospectus supplement does not constitute an offer to sell or the solicitation of an offer to buy any securities other than the securities described in this prospectus supplement or an offer to sell or the solicitation of an offer to buy such securities in any circumstances in which such offer or solicitation is unlawful. You should assume that the information appearing in this prospectus supplement, the accompany prospectus, the documents incorporated by reference herein and any related free writing prospectus is accurate only as of their respective dates. Our business, financial condition, results of operations and prospects may have changed materially since those dates.

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 supplement and/or the accompanying 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.

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Unless the context indicates otherwise, as used in this prospectus supplement, the terms “Company,” “KalVista,” “Registrant,” “we,” “us” and “our” refer to KalVista Pharmaceuticals, Inc., a Delaware corporation, and its subsidiaries, taken as a whole, unless otherwise noted. “KalVista” and all product candidate names are our common law trademarks. This prospectus supplement and the information incorporated herein by reference contains additional trade names, trademarks and service marks of other companies, which are the property of their respective owners. We do not intend our use or display of other companies’ trade names, trademarks or service marks to imply a relationship with, or endorsement or sponsorship of us by, these other companies.

Prospectus Supplement Summary

This summary highlights selected information contained elsewhere in this prospectus supplement and the accompanying prospectus. It does not contain all of the information you should consider before making an investment decision. Before you decide to invest in our securities, you should carefully read the entire prospectus supplement and the accompanying prospectus, including the risk factors and the financial statements and related notes included or incorporated by reference herein and therein.

Overview

We are a clinical stage pharmaceutical company focused on the discovery, development and commercialization of small molecule protease inhibitors for diseases with significant unmet need. We apply our insights into the chemistry and biology of proteases to develop orally delivered, small molecule inhibitors with high selectivity, potency and bioavailability that we believe will make them successful treatments for diseases. We have used these capabilities to develop a proprietary portfolio of novel, small molecule plasma kallikrein inhibitors targeting hereditary angioedema (“HAE”) and diabetic macular edema (“DME”). We also are conducting preclinical development of a novel, oral Factor XIIa (“Factor XIIa”) inhibitor program, which initially is being advanced to provide a next generation of HAE therapeutics and which also offers the opportunity for expansion into other high unmet need indications in the future.

HAE

Our primary focus is currently on developing oral therapeutics for HAE, which is a rare and potentially life-threatening condition with symptoms that include episodes of debilitating and often painful swelling in the skin, gastrointestinal tract or airways. Despite having multiple therapies approved, we believe people living with HAE are in need of alternatives that better meet their objectives for quality of life and ease of disease control. Other than one oral therapy approved for prophylaxis, currently marketed therapies are all administered by injection, which patients can find challenging despite their efficacy because they can be painful, time consuming to deliver and difficult to store. We anticipate that there will be strong interest in safe and effective, orally delivered, small molecule treatments, and our strategy is to develop distinct oral drug candidates for both on-demand and prophylactic use with the goal of providing patients with a complete set of oral options to treat their disease.

Our belief that our therapies could fundamentally transform the manner in which HAE is treated is based upon extensive and continuing research we conduct with patients, physicians and payers. Recently we have conducted research to further understand the process that people living with HAE follow when determining what therapy to use and how to treat their attacks. We have discovered significant differences in how physicians believe their patients should, and do, treat their disease, compared to how people living with HAE actually treat the disease. Among our findings, we have learned that patients carry their on-demand treatment much less often, and treat attacks much less frequently, than physicians believe. When patients do treat, we believe they tend to delay that treatment excessively for reasons including not having their treatment with them, injection-associated pain, and lack of a private area for treatment. As a result, our data indicate that a significant majority of patients experience attacks that are more severe and last longer than if they were treated earlier. Patient surveys have indicated to us, in contrast, that if provided with an oral on-demand therapy, they would expect to carry it 95% of the time, would expect to treat 94% of attacks, and 93% of patients would expect to treat their attacks earlier. This is the reason we believe that an oral on-demand therapy could represent such a significant advance.

Sebetralstat

We have advanced our candidate sebetralstat into Phase 3 clinical development as a potential oral, on-demand therapy for HAE attacks. In February 2021, we announced data from a Phase 2 efficacy trial in which sebetralstat demonstrated statistically and clinically significant responses across all primary and secondary

endpoints. In early 2022, we initiated the Phase 3 KONFIDENT clinical trial that is intended to support a New Drug Application (“NDA”) filing. KONFIDENT is a placebo-controlled crossover trial in which patients will treat a total of three attacks: one each with 300 mg sebetralstat, 600 mg sebetralstat, and placebo, given in a randomized sequence. The study is expected to enroll up to 114 patients in order to complete a total of 84 patients on the three-attack sequence. The primary endpoint of the study is time to onset of symptom relief using the PGI-C scale. KONFIDENT is expected to be conducted in approximately 60 sites in 20 countries. We expect data from KONFIDENT in the second half of 2023, and, if it is successful, we anticipate filing an NDA with the FDA in the first half of 2024.

Sebetralstat has received Fast Track and Orphan Drug designation from the FDA. A Pediatric Investigational Plan has also been approved by the European Medicines Agency for sebetralstat. In June 2022, we received formal notice from the European Commission that sebetralstat has been granted Orphan Drug designation in the European Union.

In October 2022 we announced data from a Phase 1 study of an oral disintegrating tablet (ODT) formulation of sebetralstat. This data showed that the ODT formulation of both 500 mg and 600 mg doses have comparable pharmacokinetics to a 600 mg dose of the existing film coated tablet formulation. We believe this data supports further development of the ODT formulation, which is designed to dissolve in the mouth in approximately 15 seconds, allowing patients to take a dose of sebetralstat without requiring chewing or swallowing. We believe this formulation could benefit a large number of people living with HAE, including pediatrics and those who experience difficulty swallowing. We currently anticipate that the ODT formulation, if successful, will represent a lifecycle extension opportunity in the US and Europe, though it may become the initial launch formulation in some other countries.

KVD824

Also in October 2022, we announced the termination of the Phase 2 KOMplete study for KVD824 due to a series of significant liver enzyme (ALT/AST) elevations observed during the course of the trial. These elevations were observed both in patients on study as well as in patients who had not yet commenced treatment with the study drug, but we determined to terminate the trial based upon the total number and severity of elevations observed.

Factor XIIa

Our oral Factor XIIa inhibitor program targets an enzyme that plays a key role in HAE, as the most upstream mechanism in the biochemical pathway that initiates HAE attacks. For this reason, we believe that inhibition of Factor XIIa will block the underlying causes of HAE attacks, including the uncontrolled generation of both plasma kallikrein and bradykinin which lead to swelling and pain. Clinical studies of an injectable Factor XIIa-inhibitory antibody have demonstrated a high degree of efficacy in preventing HAE attacks, and there are no known safety implications of long-term inhibition of this enzyme. We believe that our program has the potential to be the first orally delivered Factor XIIa inhibitor to enter clinical development, initially for HAE and over time for additional indications that are supported by scientific evidence. Our internal research team has discovered multiple series of low nanomolar potency Factor XIIa inhibitors that are both selective and orally bioavailable. We anticipate filing our first Investigational New Drug Application (“IND”) for this program in 2023.

DME

Our DME program to date has been focused on the development of an intravitreally administered small molecule plasma kallikrein inhibitor, KVD001, which has completed a Phase 2 trial. DME is the leading cause of moderate vision loss in most developed countries and diabetes, the underlying cause of DME, is the leading

cause of blindness among American adults according to the Center for Disease Control and Prevention. We believe intravitreal plasma kallikrein inhibitors may be an effective alternative therapy to vascular endothelial growth factor (“VEGF”) inhibitors and further improve visual acuity and decrease macular thickening. We continue to evaluate our future potential efforts in this indication, including the potential for our oral drug candidates.

At-the-Market Offering

On May 21, 2021, we entered into an “at-the-market” program and sales agreement with Cantor Fitzgerald & Co., under which we may, from time to time, offer and sell common stock having an aggregate offering value of up to \$100.0 million, referred to as our “at-the-market” offering with Cantor Fitzgerald & Co. To date, no shares of our common stock have been offered or sold pursuant to this “at-the-market” offering with Cantor Fitzgerald & Co. We may cancel this at-the-market program at any time, pursuant to its terms.

Company Information

We are incorporated in the State of Delaware. Our principal executive offices are located at 55 Cambridge Parkway, Suite 901 East, Cambridge, MA 02142, and our telephone number is (857) 999-0075. Our website address is www.kalvista.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus supplement. We have included our website address in this prospectus supplement solely as an inactive textual reference.

Smaller Reporting Company

We are a “smaller reporting company” as defined in Rule 405 of the Securities Act. We will remain a smaller reporting company until the last day of the fiscal year in which the aggregate market value of our common stock that is held by non-affiliates is at least \$250 million or the last day of the fiscal year in which we have at least \$100 million in revenue and the aggregate market value of our common stock that is held by non-affiliates is at least \$700 million (in each case, with respect to the aggregate market value of our common stock held by non-affiliates, as measured as of the last business day of the second quarter of such fiscal year).

The Offering

Common stock offered by us	9,484,199 shares
Pre-Funded Warrants Offered by us	We are also offering, in lieu of common stock to certain investors, pre-funded warrants to purchase 182,470 shares of common stock. The purchase price of each pre-funded warrant will equal the price per share at which the shares of common stock are being sold to the public in this offering, minus \$0.001, and the exercise price of each pre-funded warrant will be \$0.001 per share. Each pre-funded warrant will be exercisable at any time after the date of issuance, subject to an ownership limitation. See " Description of Pre-Funded Warrants ." This prospectus supplement also relates to the offering of the shares of common stock issuable upon exercise of such pre-funded warrants.
Common stock to be outstanding immediately following this offering	34,102,349 shares
Use of proceeds	We currently intend to use any net proceeds of this offering, together with existing cash, cash equivalents and investments, to fund clinical trials, commercial sales development, research, working capital, capital expenditures and other general corporate purposes. See " Use of Proceeds " on page S-11 of this prospectus supplement.
Risk factors	Investing in our securities involves significant risks. You should read the " Risk Factors " beginning on page S-7 of this prospectus supplement and page 5 of the accompanying prospectus and in the documents incorporated by reference in this prospectus supplement and the accompanying prospectus for a discussion of factors to consider before deciding to invest in our securities.
Nasdaq Global Market listing	Our common stock is listed on The Nasdaq Global Market under the symbol "KALV."

The above discussion is based on 24,602,023 shares of our common stock outstanding as of October 31, 2022, and excludes:

- 4,102,679 shares of common stock issuable upon exercise of options outstanding as of October 31, 2022 under the KalVista Pharmaceuticals Ltd. Enterprise Management Incentive Scheme assumed by us, our 2015 Incentive Plan, our 2017 Equity Incentive Plan and pursuant to our Non-Plan Inducement Stock Options at a weighted average exercise price of \$15.0895 per share;
- 241,879 shares of common stock issuable upon the settlement of restricted stock units outstanding as of October 31, 2022 under our 2017 Equity Incentive Plan;
- 360,000 shares of common stock issuable upon the settlement of performance stock units outstanding as of October 31, 2022 under our 2017 Equity Incentive Plan;
- 821,082 shares of common stock reserved and available for future issuance as of October 31, 2022 under our equity incentive plans, consisting of (1) 37,022 shares of common stock reserved for issuance under our 2017 Equity Incentive Plan, (2) 659,060 shares of common stock reserved for issuance under our 2017 Employee Stock Purchase Plan and (3) 125,000 shares of common stock reserved for issuance under our 2021 Equity Inducement Plan; and
- 223,000 shares of common stock issuable upon the exercise of options outstanding as of October 31, 2022 under our 2021 Equity Inducement Plan, with a weighted average exercise price of \$15.60.

Risk Factors

An investment in our securities involves a high degree of risk. Before deciding whether to invest in our securities, you should consider carefully the risks described below and the risks, uncertainties and assumptions discussed in our most recent Annual Report on Form 10-K, which is incorporated by reference in this prospectus supplement and the accompanying prospectus in its entirety, as well as any amendment or update to our risk factors reflected in subsequent filings with the SEC, together with other information in this prospectus supplement, the accompanying prospectus, and the information and documents incorporated by reference that we have authorized for use in connection with this offering. The risks and uncertainties described below and incorporated by reference herein are not the only ones we face. Additional risks and uncertainties that we are unaware of or that we deem immaterial may also become important factors that adversely affect our business. If any of these risks actually occur, our business, financial condition, results of operations or cash flows could be seriously harmed. This could cause the trading price of our common stock to decline, resulting in a loss of all or part of your investment.

Risks Related to This Offering

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

Our management has broad discretion in the application of the net proceeds from this offering, and you will not have the opportunity as part of your investment decision to assess whether the net proceeds are being used appropriately. Our management could spend the net proceeds from this offering in ways that do not improve our results of operations or enhance the value of our common stock. The failure by our management to apply these funds effectively could result in financial losses that could have a material adverse effect on our business, cause the price of our common stock to decline and delay the development of our product candidates. Pending their use, we may invest the net proceeds from this offering in a manner that does not produce income or that loses value.

If you purchase securities sold in this offering, you will incur immediate and substantial dilution.

If you purchase shares of our common stock in this offering, you will experience substantial and immediate dilution in the as adjusted net tangible book value per share after giving effect to this offering, based on the public offering price of \$6.00 per share, because the price that you pay will be substantially greater than the as adjusted net tangible book value per share of the common stock that you acquire. This dilution is due in large part to the fact that certain of our earlier investors paid substantially less than the offering price when they purchased shares of our capital stock. You will experience additional dilution upon exercise of the outstanding stock options and other equity awards that may be granted under our equity incentive plans, or the pre-funded warrants offered hereby, and when we otherwise issue additional shares of our common stock. For more information, see [“Dilution.”](#)

Our executive officers, directors and principal stockholders, if they choose to act together, will continue to have the ability to control all matters submitted to stockholders for approval.

We have a concentrated stockholder base and our executive officers and directors, combined with our stockholders who, to our knowledge, each own more than 5% of our outstanding common stock, in the aggregate, beneficially own shares representing a substantial number of our capital stock. To the extent any such existing stockholders buy additional securities in this transaction, this group’s ownership percentage may increase further. As a result, if these stockholders were to choose to act together, they may be able to control all matters submitted to our stockholders for approval, as well as our management and affairs. For example, these persons, if they choose to act together, would control the election of directors and approval of any merger, consolidation or sale of all or substantially all of our assets. This concentration of ownership control may:

- delay, defer or prevent a change in control;
- entrench our management and the board of directors; or

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- impede a merger, consolidation, takeover or other business combination involving us that other stockholders may desire or may result in you obtaining a premium for your securities.

Future sales of shares of our common stock by our existing stockholders could cause our stock price to decline.

Sales of a substantial number of shares of our common stock in the public market, or the perception that these sales might occur, could depress the market price of our common stock and could impair our ability to raise capital through the sale of additional equity securities. Further, we have a number of stock options outstanding. If a substantial number of shares of common stock underlying these stock options are sold, or if it is perceived that they will be sold, in the public market, it could have an adverse impact on the market price of our common stock. We are unable to predict the effect that sales may have on the prevailing market price of our common stock.

We may raise money through additional public or private offerings of our equity securities or equity-linked securities. For example, in May 2021, we entered into an “at-the-market offering” program with Cantor Fitzgerald & Co. pursuant to which we may sell shares of our common stock from time to time, subject to certain conditions. Any sales of our equity or equity-linked securities could have a material adverse effect on the market price of our common stock.

There is no public market for the pre-funded warrants being offered in this offering.

There is no public trading market for the pre-funded warrants being offered in this offering, and we do not expect a market to develop. In addition, we do not intend to apply to list the pre-funded warrants on any securities exchange or nationally recognized trading system, including the Nasdaq Global Market. Without an active market, the liquidity of the pre-funded warrants will be limited.

We will not receive a significant amount, or potentially any, additional funds upon the exercise of our pre-funded warrants; however, any exercise would increase the number of shares eligible for future resale in the public market and result in dilution to our stockholders.

Each pre-funded warrant is exercisable for \$0.001 per share of common stock underlying such pre-funded warrant, which may be paid by way of a cashless exercise, meaning that the holder may not pay a cash purchase price upon exercise, but instead would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the pre-funded warrant. Accordingly, we will not receive a significant amount of, or potentially any, additional funds upon the exercise of the pre-funded warrants. To the extent such pre-funded warrants are exercised, additional shares of common stock will be issued for nominal or no additional consideration, which will result in dilution to the then existing holders of our common stock and will increase the number of shares eligible for resale in the public market.

Holders of pre-funded warrants purchased in this offering will have no rights as common stockholders until such holders exercise their pre-funded warrants and acquire our common stock.

Until holders of pre-funded warrants acquire shares of our common stock upon exercise of the pre-funded warrants, as applicable, holders of pre-funded warrants will have no rights with respect to the shares of our common stock underlying such pre-funded warrants, as applicable. Upon exercise of the pre-funded warrants, the holders will be entitled to exercise the rights of a common stockholder only as to matters for which the record date occurs after the exercise date.

Significant holders or beneficial holders of our common stock may not be permitted to exercise pre-funded warrants that they hold.

A holder of a pre-funded warrant will not be entitled to exercise any portion of any pre-funded warrant which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of our common stock

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beneficially owned by the holder (together with its affiliates) to exceed 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, or (ii) the combined voting power of our securities beneficially owned by the holder (together with its affiliates) to exceed 9.99% of the combined voting power of all of our securities then outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants, as applicable, unless such percentage is increased upon at least 61 days' prior notice, but not in excess of 19.99%. As a result, holders may not be able to exercise your pre-funded warrants for shares of our common stock at a time when it would be financially beneficial for them to do so. In such circumstance a holder could seek to sell their pre-funded warrants to realize value, but may be unable to do so in the absence of an established trading market for the pre-funded warrants.

Forward-Looking Statements

This prospectus supplement, the accompanying prospectus, and documents incorporated by reference herein and therein contain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements involve a number of risks and uncertainties. We caution readers that any forward-looking statement is not a guarantee of future performance and that actual results could differ materially from those contained in the forward-looking statement. These statements are based on current expectations of future events.

Such statements include, but are not limited to, statements about future financial and operating results, plans, objectives, expectations and intentions, costs and expenses, outcome of contingencies, financial condition, results of operations, liquidity, cost savings, objectives of management, business strategies, financing, the timing, plans and expected results of our current and future preclinical studies and clinical trials, the impact of COVID-19 pandemic, macroeconomic conditions, including rising inflation and interest rates, and global conflicts such as the war in Ukraine, the efficacy and safety profiles of our product candidates, the length of time that we believe our existing cash resources will fund operations, the extent to which we will be able to advance development of our product candidates using the proceeds of this offering together with our existing cash resources, clinical and commercial collaboration with third-parties, the receipt and timing of potential regulatory designations, our ability to maintain and recognize the benefits of certain designations received by product candidates, the achievement of clinical and commercial milestones, the advancement of our technologies and our proprietary product candidates, approvals and commercialization of product candidates, the anticipated use of the net proceeds from this offering and other statements that are not historical facts.

You can find many of these statements by looking for words like “believes,” “expects,” “anticipates,” “estimates,” “may,” “might,” “should,” “will,” “could,” “plan,” “intend,” “project,” “seek” or similar expressions in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein and any free writing prospectus. We intend that such forward-looking statements be subject to the safe harbors created thereby.

These forward-looking statements are based on the current beliefs and expectations of our management and are subject to significant risks and uncertainties. If underlying assumptions prove inaccurate or unknown risks or uncertainties materialize, actual results may differ materially from current expectations and projections. Factors that might cause such a difference include those discussed in our most recent Annual Report on Form 10-K, as well as those discussed in this prospectus supplement, the accompanying prospectus and the documents incorporated by reference herein and therein and any free writing prospectus. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date made.

All subsequent written or oral forward-looking statements attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section.

We do not undertake any obligation to release publicly any revisions to these forward-looking statements to reflect events or circumstances after the date of this prospectus supplement or to reflect the occurrence of unanticipated events, except as may be required under applicable U.S. securities laws. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

Use of Proceeds

We expect to receive approximately \$58.0 million in net proceeds from this offering, after deducting estimated offering expenses payable by us. We will receive nominal proceeds, if any, from the exercise of the pre-funded warrants.

We currently intend to use any net proceeds from the sale of securities under this prospectus supplement to fund clinical trials, commercial sales development, research, working capital, capital expenditures and other general corporate purposes.

The amounts and timing of our actual expenditures will depend on numerous factors, including the progress of our clinical trials and other development efforts and other factors described under “[Risk Factors](#)” in this prospectus supplement and the documents incorporated by reference herein, as well as the amount of cash used in our operations. As a result, our management will have broad discretion over the uses of the net proceeds, if any, we receive in connection with securities offered pursuant to this prospectus supplement and investors will be relying on the judgment of our management regarding the application of the proceeds. Pending these uses, we intend to invest the net proceeds in short-term, interest-bearing obligations, investment-grade instruments, certificates of deposit or guaranteed obligations of the U.S. government.

Dividend Policy

We have never declared or paid cash dividends on our capital stock. We currently intend to retain any future earnings for use in the operation of our business and do not intend to declare or pay any cash dividends in the foreseeable future. Any further determination to pay dividends on our capital stock will be at the discretion of our board of directors, subject to applicable laws, and will depend on our financial condition, results of operations, capital requirements, general business conditions and other factors that our board of directors considers relevant.

Dilution

If you invest in our common stock, your ownership interest will be diluted to the extent of the difference between the public offering price per share of our common stock and the as adjusted net tangible book value per share of our common stock immediately after this offering.

As of October 31, 2022, our net tangible book value was \$127.2 million, or \$5.17 per share of common stock. Net tangible book value per share represents the amount of our tangible assets less our liabilities divided by the total number of shares of our common stock outstanding.

After giving effect to the sale of 9,484,199 shares of our common stock and pre-funded warrants to purchase up to 182,470 shares of our common stock at the public offering price of \$6.00 per share and \$5.999 per pre-funded warrant (which equals the public offering price per share of the common stock less the \$0.001 per share exercise price of each such pre-funded warrant) (and excluding shares of common stock issued and any proceeds received upon exercise of the pre-funded warrants or any resulting accounting associated with the pre-funded warrants), and after deducting estimated offering expenses payable by us, our as adjusted net tangible book value as of October 31, 2022 would have been approximately \$185.2 million, or \$5.43 per share. This represents an immediate increase in net tangible book value of \$0.26 per share to existing stockholders and immediate dilution of \$0.57 per share to investors purchasing our common stock in this offering at the public offering price. The following table illustrates this dilution on a per share basis:

Offering price per share	\$6.00
Net tangible book value per share as of October 31, 2022, before giving effect to this offering	\$5.17
Increase in as adjusted net tangible book value per share after giving effect to this offering	\$0.26
As adjusted net tangible book value per share, after giving effect to this offering	\$5.43
Dilution per share to investors purchasing our common stock and pre-funded warrants in this offering	<u>\$0.57</u>

The above discussion is based on 24,602,023 shares of our common stock outstanding as of October 31, 2022, and excludes:

- 4,102,679 shares of common stock issuable upon exercise of options outstanding as of October 31, 2022 under the KalVista Pharmaceuticals Ltd. Enterprise Management Incentive Scheme assumed by us, our 2015 Incentive Plan, our 2017 Equity Incentive Plan and pursuant to our Non-Plan Inducement Stock Options at a weighted average exercise price of \$15.0895 per share;
- 241,879 shares of common stock issuable upon the settlement of restricted stock units outstanding as of October 31, 2022 under our 2017 Equity Incentive Plan;
- 360,000 shares of common stock issuable upon the settlement of performance stock units outstanding as of October 31, 2022 under our 2017 Equity Incentive Plan;
- 821,082 shares of common stock reserved and available for future issuance as of October 31, 2022 under our equity incentive plans, consisting of (1) 37,022 shares of common stock reserved for issuance under our 2017 Equity Incentive Plan, (2) 659,060 shares of common stock reserved for issuance under our 2017 Employee Stock Purchase Plan and (3) 125,000 shares of common stock reserved for issuance under our 2021 Equity Inducement Plan; and
- 223,000 shares of common stock issuable upon the exercise of options outstanding as of October 31, 2022 under our 2021 Equity Inducement Plan, with a weighted average exercise price of \$15.60.

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To the extent that outstanding options are exercised or other shares issued, investors purchasing our common stock in this offering will experience further dilution. In addition, we may choose to raise additional capital due to market conditions or strategic considerations even if we believe we have sufficient funds for our current or future operating plans. To the extent that we raise additional capital through the sale of equity or convertible debt securities, the issuance of these securities could result

Description of Pre-Funded Warrants

The material terms and provisions of our common stock are described under the heading “Description of Capital Stock” starting on page 10 of the accompanying prospectus. The material terms and provisions of the pre-funded warrants being issued in this offering are summarized below and are qualified in their entirety by the full text of the pre-funded warrant agreement.

Form

The pre-funded warrants will be issued as individual warrant agreements to the investors. The form of pre-funded warrant will be filed as an exhibit to our Current Report on Form 8-K that we expect to file with the SEC in connection with this offering.

Term

The pre-funded warrants do not expire.

Exercisability

The pre-funded warrants are exercisable at any time after their original issuance. The pre-funded warrants will be exercisable, at the option of each holder, in whole or in part by delivering to us a duly executed exercise notice and by payment in full of the exercise price in immediately available funds for the number of shares of common stock purchased upon such exercise. As an alternative to payment in immediately available funds, the holder may elect to exercise the pre-funded warrant through a cashless exercise, in which the holder would receive upon such exercise the net number of shares of common stock determined according to the formula set forth in the pre-funded warrant. No fractional shares of common stock will be issued in connection with the exercise of a pre-funded warrant.

Exercise Limitations

Under the pre-funded warrants, we may not effect the exercise of any pre-funded warrant, and a holder will not be entitled to exercise any portion of any pre-funded warrant, which, upon giving effect to such exercise, would cause (i) the aggregate number of shares of our common stock beneficially owned by the holder (together with its affiliates) to exceed 9.99% of the number of shares of our common stock outstanding immediately after giving effect to the exercise, or (ii) the combined voting power of our securities beneficially owned by the holder (together with its affiliates) to exceed 9.99% of the combined voting power of all of our securities then outstanding immediately after giving effect to the exercise, as such percentage ownership is determined in accordance with the terms of the pre-funded warrants. However, any holder may increase or decrease such percentage to any other percentage not in excess of 19.99% upon at least 61 days’ prior notice from the holder to us.

Exercise Price

The exercise price per whole share of our common stock purchasable upon the exercise of the pre-funded warrants is \$0.001 per share of common stock. The exercise price of the pre-funded warrants and the number of shares of our common stock issuable upon exercise of the pre-funded warrants is subject to appropriate adjustment in the event of certain stock dividends and distributions, stock splits, stock combinations, reclassifications or similar events affecting our common stock. The exercise price will not be adjusted below the par value of our common stock.

Transferability

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

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Exchange Listing

There is no established public trading market for the pre-funded warrants and we do not expect a market to develop. We do not intend to list the pre-funded warrants on The Nasdaq Global Market, any other national securities exchange or any other nationally recognized trading system. Without an active market, the liquidity of the pre-funded warrants will be limited.

Fundamental Transactions

In the event of a fundamental transaction, as described in the pre-funded warrants and generally including any reorganization, recapitalization or reclassification of our common stock, the sale, transfer or other disposition of all or substantially all of our properties or assets, our consolidation or merger with or into another person, the acquisition of more than 50% of our outstanding common stock, or any person or group becoming the beneficial owner of 50% of the voting power represented by our outstanding common stock, upon consummation of such a fundamental transaction, the holders of the pre-funded warrants will be entitled to receive upon exercise of the pre-funded warrants the kind and amount of securities, cash or other property that the holders would have received had they exercised the pre-funded warrants immediately prior to such fundamental transaction without regard to any limitations on exercise contained in the pre-funded warrants.

No Rights as a Stockholder

Except by virtue of such holder's ownership of shares of our common stock, the holder of a pre-funded warrant does not have the rights or privileges of a holder of our common stock, including any voting rights, until the holder exercises the pre-funded warrant. In the event of certain distributions, including cash dividends, if any, to all holders of our common stock for no consideration, the holder of a pre-funded warrant shall be entitled to participate in such distributions to the same extent as if a holder of shares of our common stock, subject to not exceeding the ownership limitations described above under "—Exercise Limitations," in which case such distribution shall be held in abeyance for the benefit of such holder until the earlier of such time as the ownership limitations would not be exceeded or the warrant is exercised.

Plan of Distribution

We are selling 9,484,199 shares of our common stock and pre-funded warrants to purchase 182,470 shares of common stock in lieu of common stock directly to affiliates of Frazier, TCGX, Venrock and certain other investors at a price of \$6.00 per share and \$5.999 per pre-funded warrant. We have entered into subscription agreements, dated December 23, 2022, with affiliates of Frazier, TCGX, Venrock and certain other investors relating to the sale of the securities. The securities are being offered directly to the investors without a placement agent, underwriter, broker or dealer. We estimate the total expenses of this offering that will be payable by us will be approximately \$200,000.

We do not intend to apply for listing of the pre-funded warrants on any securities exchange or other nationally recognized trading system. We currently anticipate that the closing of the offering will take place on or about December 28, 2022.

The transfer agent and registrar for our common stock is American Stock Transfer & Trust Company, LLC. Our common stock is listed on the Nasdaq Global Market under the symbol "KALV."

Legal Matters

The validity of the common stock offered hereby and certain legal matters in connection with this offering will be passed upon by Fenwick & West LLP, San Francisco, California.

Experts

The consolidated financial statements, incorporated in this prospectus supplement by reference from the Company's Annual Report on Form 10-K for the year ended April 30, 2022, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the report of Deloitte & Touche LLP given upon their authority as experts in accounting and auditing.⁴

Where You Can Find More Information

We have filed with the SEC a registration statement on Form S-3 under the Securities Act with respect to the shares of common stock offered hereby. Certain information in the registration statement has been omitted from this prospectus supplement in accordance with the rules of the SEC. We are subject to the information requirements of the Exchange Act and, in accordance therewith, file annual, quarterly and special reports, proxy statements and other information with the SEC. These documents also may be accessed through the SEC's electronic data gathering, analysis and retrieval system, via electronic means, including the SEC's home page on the Internet (www.sec.gov). You may also inspect the registration statement, this prospectus supplement and the accompanying prospectus on this website. You may also inspect the documents described herein at our principal executive offices, 55 Cambridge Parkway, Suite 901 East, Cambridge, MA 02142, during normal business hours. Information about us is also available at our website at <http://www.kalvista.com>. However, the information on our website is not a part of this prospectus supplement and is not incorporated by reference into this prospectus supplement.

⁴ NTD: DT to review and confirm language.

Incorporation of Documents by Reference

The SEC allows us to “incorporate by reference” information that we file with the SEC, which means that we can disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus supplement and the accompanying prospectus, and information we file later with the SEC will automatically update and supersede this information. A Current Report (or portion thereof) furnished, but not filed, on Form 8-K shall not be incorporated by reference into this prospectus supplement and the accompanying prospectus. We incorporate by reference the documents listed below and any future filings we make with the SEC under Section 13(a), 13(c), 14, or 15(d) of the Exchange Act prior to the termination of any offering of securities made by this prospectus supplement and accompanying prospectus:

- (1) Our Annual Report on [Form 10-K](#) for the year ended April 30, 2022 filed with the SEC on July 7, 2022;
- (2) Our Quarterly Reports on Form 10-Q for the quarters ended [July 31, 2022](#) and [October 31, 2022](#);
- (3) Our Current Reports on Form 8-K filed on [May 27, 2022](#) and [October 17, 2022](#);
- (4) Our Definitive Proxy Statement on [Schedule 14A](#), filed with the SEC on August 22, 2022 (but only with respect to information required by Part III of our Annual Report on Form 10-K for the year ended April 30, 2022, which information shall update and supersede information included in Part III of our Annual Report on Form 10-K for the year ended April 30, 2022);
- (5) The description of our common stock in our Registration Statement on [Form 8-A](#) (No. 001-36830) filed with the SEC on February 2, 2015, and including any other amendments or reports filed for the purpose of updating such description; and
- (6) All other filings pursuant to the Exchange Act after the date of the initial registration statement and prior to the effectiveness of the registration statement.

We will furnish without charge to you, on written or oral request, a copy of any or all of such documents that has been incorporated herein by reference, including exhibits to these documents. Written or oral requests for copies should be directed to KalVista Pharmaceuticals, Inc., Attn: Investor Relations, 55 Cambridge Parkway, Suite 901 East, Cambridge, MA 02142, telephone number (857) 999-0075. See the section of this prospectus supplement entitled “[Where You Can Find More Information](#)” for information concerning how to read and obtain copies of materials that we file with the SEC at the SEC’s public offices.

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

PROSPECTUS

\$300,000,000

KalVista Pharmaceuticals, Inc.

**Common Stock, Preferred Stock,
Debt Securities, Warrants, Subscription Rights and Units**

From time to time, we may offer up to \$300,000,000 aggregate dollar amount of shares of our common stock or preferred stock, debt securities, warrants to purchase our common stock, preferred stock or debt securities, subscription rights to purchase our common stock, preferred stock or debt securities and/or units consisting of some or all of these securities, in any combination, together or separately, in one or more offerings, in amounts, at prices and on the terms that we will determine at the time of the offering and which will be set forth in a prospectus supplement and any related free writing prospectus. The prospectus supplement and any related free writing prospectus may also add, update or change information contained in this prospectus. The total amount of these securities will have an initial aggregate offering price of up to \$300,000,000.

You should read this prospectus, the information incorporated, or deemed to be incorporated, by reference in this prospectus, and any applicable prospectus supplement and related free writing prospectus carefully before you invest.

Our common stock is traded on The Nasdaq Global Market under the symbol “KALV.” On May 17, 2021 the last reported sales price for our common stock was \$26.78 per share. None of the other securities we may offer are currently traded on any securities exchange. The applicable prospectus supplement and any related free writing prospectus will contain information, where applicable, as to any other listing on The Nasdaq Global Market or any securities market or exchange of the securities covered by the prospectus supplement and any related free writing prospectus.

An investment in our securities involves a high degree of risk. You should carefully consider the information under the heading “[Risk Factors](#)” beginning on page 5 of this prospectus before investing in our securities.

Common stock, preferred stock, debt securities, warrants, subscription rights and/or units may be sold by us to or through underwriters or dealers, directly to purchasers or through agents designated from time to time. For additional information on the methods of sale, you should refer to the section entitled “Plan of Distribution” in this prospectus. If any underwriters, dealers or agents are involved in the sale of any securities with respect to which this prospectus is being delivered, the names of such underwriters or agents and any applicable fees, discounts or commissions, details regarding over-allotment options, if any, and the net proceeds to us will be set forth in a prospectus supplement. The price to the public of such securities and the net proceeds we expect to receive from such sale will also be set forth in a prospectus supplement.

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

The date of this prospectus is June 1, 2021

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ABOUT THIS PROSPECTUS

This prospectus is part of a registration statement that we filed with the Securities and Exchange Commission (the SEC) using a “shelf” registration process. Under this shelf registration process, from time to time, we may sell any combination of the securities described in this prospectus in one or more offerings, up to a total dollar amount of \$300.0 million. In this prospectus, we have provided a general description of the securities we may offer. Each time we sell securities under this shelf registration process, we will provide a prospectus supplement that will contain specific information about the terms of the offering. We may also add, update or change any of the information contained in this prospectus in a prospectus supplement. To the extent there is a conflict between the information contained in this prospectus and the prospectus supplement, you should rely on the information in the prospectus supplement; *provided* that, if any statement in one of these documents is inconsistent with a statement in another document having a later date—for example, a document incorporated by reference in this prospectus or any prospectus supplement—the statement in the document having the later date modifies or supersedes the earlier statement. You should read both this prospectus and any prospectus supplement together with additional information described under the next heading “Where You Can Find More Information.”

You should rely only on the information contained in or incorporated by reference into this prospectus or any applicable prospectus supplement. No dealer, salesperson or any other person is authorized to give any information or to make any representation other than the information and representations contained in or incorporated by reference into this prospectus or any applicable prospectus supplement. If different information is given or different representations are made, you may not rely on that information or those representations as having been authorized by us. You may not imply from the delivery of this prospectus and any applicable prospectus supplement, nor from a sale made under this prospectus and any applicable prospectus supplement, that our affairs are unchanged since the date of this prospectus and any applicable prospectus supplement or that the information contained in any document incorporated by reference is accurate as of any date other than the date of the document incorporated by reference, regardless of the time of delivery of this prospectus and any applicable prospectus supplement or any sale of a security. This prospectus and any applicable prospectus supplement may only be used where it is legal to sell the securities.

THIS PROSPECTUS MAY NOT BE USED TO OFFER AND SELL SECURITIES UNLESS IT IS ACCOMPANIED BY A PROSPECTUS SUPPLEMENT.

In this prospectus, unless the context otherwise requires, the terms “KalVista,” the “Company,” “we,” “us,” and “our” refer to KalVista Pharmaceuticals, Inc., a Delaware corporation.

PROSPECTUS SUMMARY

This summary highlights information contained in other parts of this prospectus or incorporated by reference in this prospectus from our Annual Report on Form 10-K for the year ended April 30, 2020, and our other filings with the SEC listed below under the heading “Incorporation of Certain Information by Reference.” This summary may not contain all the information that you should consider before investing in securities. You should read the entire prospectus and the information incorporated by reference in this prospectus carefully, including “Risk Factors” and the financial data and related notes and other information incorporated by reference, before making an investment decision.

Company Overview

We are a clinical stage pharmaceutical company focused on the discovery, development and commercialization of small molecule protease inhibitors for diseases with significant unmet need. We apply our insights into the chemistry and biology of proteases to develop orally delivered, small molecule inhibitors with high selectivity, potency and bioavailability that we believe will make them successful treatments for disease. We have used these capabilities to develop a proprietary portfolio of novel, small molecule plasma kallikrein inhibitors targeting hereditary angioedema (“HAE”) and diabetic macular edema (“DME”). In late 2020, we also announced a novel, oral activated Factor XII (“Factor XIIa”) program, which initially is being advanced to provide a next generation of HAE therapeutics and which also offers the opportunity for expansion into other high unmet need indications in the future.

HAE

HAE is a rare and potentially life-threatening condition with symptoms that include episodes of debilitating and often painful swelling in the skin, gastrointestinal tract or airways. Despite having multiple therapies approved, we believe HAE patients are in need of alternatives that better meet their objectives for quality of life and ease of disease control. Other than one recently approved prophylaxis product, currently marketed therapies are all administered by injection and we anticipate that there will be strong interest in safe and effective, orally delivered, small molecule treatments for both on-demand and prophylactic use.

Our most advanced program for HAE is KVD900, which is being developed as a potential oral, on-demand therapy for treatment of HAE attacks. In February 2020 we announced data from a Phase 2 efficacy trial in which KVD900 demonstrated statistical and clinically significant responses across all primary and secondary endpoints. KVD900 has received Fast Track designation from the U.S. Food and Drug Administration. A Pediatric Investigational Plan has also been approved by the European Medicines Agency for KVD900.

KVD824 is our oral product candidate being developed for prophylactic treatment of HAE. In April 2021 we announced that the FDA has placed a clinical hold on our Investigational New Drug Application for a Phase 2 clinical trial of KVD824 as a potential prophylactic treatment for the prevention of HAE attacks. We are currently working to provide the additional information and analysis requested by the FDA and intend to commence the planned Phase 2 study once such clearance is provided.

Factor XIIa

Our recently announced oral Factor XIIa inhibitor program represents what we believe is a major breakthrough in development of a therapeutic against an important target. Factor XIIa is an enzyme that plays a key role in HAE as the most upstream mechanism in the biochemical pathway that initiates HAE attacks. We believe that our program has the potential to be the first orally delivered Factor XIIa inhibitor to enter clinical development, initially for HAE and over time for additional indications that are supported by scientific evidence. We anticipate conducting IND-enabling studies for potential drug candidates in 2021.

DME

Our DME program is initially focused on the development of an intravitreally administered small molecule plasma kallikrein inhibitor, KVD001, which completed a Phase 2 trial in 2019. We also intend to develop oral therapies for DME, which we believe would represent a substantial enhancement to the therapeutic options with this disease. We are currently evaluating our development strategy in this indication and expect to provide further updates when appropriate.

At-the-Market Offering

On March 29, 2019, we entered into an “at-the-market” program and sales agreement with Cantor Fitzgerald & Co., under which we may, from time to time, offer and sell common stock having an aggregate offering value of up to \$50.0 million, referred to as our “at-the-market” offering with Cantor Fitzgerald & Co. 628,553 shares of our common stock have been offered or sold pursuant to this “at-the-market” offering with Cantor Fitzgerald & Co. The sales agreement with Cantor Fitzgerald & Co. was terminated on February 10, 2021.

The Securities We May Offer

With this prospectus, we may offer common stock, preferred stock, debt securities, warrants to purchase our common stock, preferred stock or debt securities, subscription rights to purchase our common stock, preferred stock or debt securities, and/or units consisting of some or all of these securities in any combination. The aggregate offering price of securities that we offer with this prospectus will not exceed \$300.0 million. Each time we offer securities with this prospectus, we will provide offerees with a prospectus supplement that will contain the specific terms of the securities being offered. The following is a summary of the securities we may offer with this prospectus.

Common Stock

We may offer shares of our common stock, par value \$0.001 per share.

Preferred Stock

We may offer shares of our preferred stock, par value \$0.001 per share, in one or more series. Our board of directors or a committee designated by the board will determine the dividend, voting, conversion and other rights of the series of shares of preferred stock being offered. Each series of preferred stock will be more fully described in the particular prospectus supplement that will accompany this prospectus, including redemption provisions, rights in the event of our liquidation, dissolution or the winding up, voting rights and rights to convert into common stock.

Debt Securities

We may offer general obligations, which may be secured or unsecured, senior or subordinated and convertible into shares of our common stock or preferred stock. In this prospectus, we refer to the senior debt securities and the subordinated debt securities together as the “debt securities.” Our board of directors will determine the terms of each series of debt securities being offered.

We will issue the debt securities under an indenture between us and a trustee. In this document, we have summarized general features of the debt securities from the indenture. We encourage you to read the indenture, which is an exhibit to the registration statement of which this prospectus is a part.

Warrants

We may offer warrants for the purchase of debt securities, shares of preferred stock or shares of common stock. We may issue warrants independently or together with other securities. Our board of directors will determine the terms of the warrants.

Subscription Rights

We may offer subscription rights for the purchase of common stock, preferred stock or debt securities. We may issue subscription rights independently or together with other securities. Our board of directors will determine the terms of the subscription rights.

Units

We may offer units consisting of some or all of the securities described above, in any combination, including common stock, preferred stock, warrants and/or debt securities. The terms of these units will be set forth in a prospectus supplement. The description of the terms of these units in the related prospectus supplement will not be complete. You should refer to the applicable form of unit and unit agreement for complete information with respect to these units.

We are incorporated in the State of Delaware. Our principal executive offices are located at 55 Cambridge Parkway, Suite 901 East, Cambridge, MA 02142, and our telephone number is (857) 999-0075. Our website address is www.kalvista.com. The information contained on, or that can be accessed through, our website is not a part of this prospectus. We have included our website address in this prospectus solely as an inactive textual reference.

RISK FACTORS

An investment in our securities involves a high degree of risk. The prospectus supplement applicable to each offering of securities will contain a discussion of the risks applicable to an investment in our securities. Prior to making a decision about investing in our securities, you should carefully consider the specific factors discussed under the heading “Risk Factors” in the applicable prospectus supplement, together with all of the other information contained or incorporated by reference in the prospectus supplement or appearing or incorporated by reference in this prospectus. You should also consider the risks, uncertainties and assumptions discussed in our most recent Annual Report on Form 10-K, in any subsequent Quarterly Report on Form 10-Q and any other filings we make with the SEC from time to time, which are incorporated herein by reference in this prospectus, and may be amended, supplemented or superseded from time to time by other reports we file with the SEC in the future. The risks and uncertainties we have described are not the only ones we face. Additional risks and uncertainties not presently known to us or that we currently deem immaterial may also affect our operations.

FORWARD-LOOKING STATEMENTS

This prospectus and documents incorporated by reference herein and therein contain “forward-looking statements” within the meaning of the Private Securities Litigation Reform Act of 1995. These forward-looking statements involve a number of risks and uncertainties. We caution readers that any forward-looking statement is not a guarantee of future performance and that actual results could differ materially from those contained in the forward-looking statement. These statements are based on current expectations of future events. Such statements include, but are not limited to, statements about future financial and operating results, plans, objectives, expectations and intentions, costs and expenses, outcome of contingencies, financial condition, results of operations, liquidity, cost savings, objectives of management, business strategies, financing, the timing, plans and expected results of our current and future preclinical studies and clinical trials, the impact of the COVID-19 pandemic, the efficacy and safety profiles of our product candidates, the length of time that we believe our existing cash resources will fund operations, the extent to which we will be able to advance development of our product candidates using the proceeds of this offering together with our existing cash resources, clinical and commercial collaboration with third-parties, the receipt and timing of potential regulatory designations, our ability to maintain and recognize the benefits of certain designations received by product candidates, the achievement of clinical and commercial milestones, the advancement of our technologies and our proprietary product candidates, approvals and commercialization of product candidates, the anticipated use of the net proceeds from this offering and other statements that are not historical facts. You can find many of these statements by looking for words like “believes,” “expects,” “anticipates,” “estimates,” “may,” “might,” “should,” “will,” “could,” “plan,” “intend,” “project,” “seek” or similar expressions in this prospectus and the documents incorporated by reference herein and therein and any free writing prospectus. We intend that such forward-looking statements be subject to the safe harbors created thereby.

These forward-looking statements are based on the current beliefs and expectations of our management and are subject to significant risks and uncertainties. If underlying assumptions prove inaccurate or unknown risks or uncertainties materialize, actual results may differ materially from current expectations and projections. Factors that might cause such a difference include those discussed in our most recent Annual Report on Form 10-K and any subsequent Quarterly Report on Form 10-Q, as well as those discussed in this prospectus and in the documents incorporated by reference into this prospectus. You are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date made.

All subsequent written or oral forward-looking statements attributable to us or any person acting on our behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section. We do not undertake any obligation to release publicly any revisions to these forward-looking statements to reflect events or circumstances after the date of this prospectus or to reflect the occurrence of unanticipated events, except as may be required under applicable U.S. securities law. If we do update one or more forward-looking statements, no inference should be drawn that we will make additional updates with respect to those or other forward-looking statements.

USE OF PROCEEDS

We will retain broad discretion over the use of the net proceeds to us from the sale of our securities under this prospectus. Unless otherwise provided in the applicable prospectus supplement, we intend to use the net proceeds from the sale of securities under this prospectus for general corporate purposes, which may include funding research and development, increasing our working capital, reducing indebtedness, acquisitions or investments in businesses, products or technologies that are complementary to our own and capital expenditures. We will set forth in the prospectus supplement our intended use for the net proceeds received from the sale of any securities.

PLAN OF DISTRIBUTION

We may sell the securities covered by this prospectus to one or more underwriters for public offering and sale by them, and may also sell the securities to investors directly or through agents. We will name any underwriter or agent involved in the offer and sale of securities in the applicable prospectus supplement. We have reserved the right to sell or exchange securities directly to investors on our own behalf in jurisdictions where we are authorized to do so. We may distribute the securities from time to time in one or more transactions:

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

We may directly solicit offers to purchase the securities being offered by this prospectus. We may also designate agents to solicit offers to purchase the securities from time to time. We will name in a prospectus supplement any agent involved in the offer or sale of our securities. Unless otherwise indicated in a prospectus supplement, an agent will be acting on a best efforts basis, and a dealer will purchase securities as a principal for resale at varying prices to be determined by the dealer.

If we utilize an underwriter in the sale of the securities being offered by this prospectus, we will execute an underwriting agreement with the underwriter at the time of sale and we will provide the name of any underwriter in the prospectus supplement that the underwriter will use to make resales of the securities to the public. In connection with the sale of the securities, we, or the purchasers of securities for whom the underwriter may act as agent, may compensate the underwriter in the form of underwriting discounts or commissions. The underwriter may sell the securities to or through dealers, and those dealers may receive compensation in the form of discounts, concessions or commissions from the underwriters or commissions from the purchasers for whom they may act as agent.

We will provide in the applicable prospectus supplement any compensation we pay to underwriters, dealers, or agents in connection with the offering of the securities, and any discounts, concessions or commissions allowed by underwriters to participating dealers. Underwriters, dealers and agents participating in the distribution of the securities may be deemed to be underwriters within the meaning of the Securities Act of 1933 (the Securities Act), and any discounts and commissions received by them and any profit realized by them on resale of the securities may be deemed to be underwriting discounts and commissions. We may enter into agreements to indemnify underwriters, dealers and agents against civil liabilities, including liabilities under the Securities Act, and to reimburse them for certain expenses. We may grant underwriters who participate in the distribution of our securities under this prospectus an option to purchase additional securities to cover any over-allotments in connection with the distribution.

The securities we offer under this prospectus may or may not be listed through The Nasdaq Global Market or any other securities exchange. To facilitate the offering of securities, certain persons participating in the offering may engage in transactions that stabilize, maintain or otherwise affect the price of the securities. This may include short sales of the securities, which involves the sale by persons participating in the offering of more securities than we sold to them. In these circumstances, these persons would cover such short positions by making purchases in the open market or by exercising their option to purchase additional securities. In addition, these persons may stabilize or maintain the price of the securities by bidding for or purchasing securities in the open market or by imposing penalty bids, whereby selling concessions allowed to dealers participating in the offering may be reclaimed if securities sold by them are repurchased in connection with stabilization transactions. The effect of these transactions may be to stabilize or maintain the market price of the securities at a level above that which might otherwise prevail in the open market. These transactions may be discontinued at any time.

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We may engage in at the market offerings into an existing trading market in accordance with Rule 415(a)(4) under the Securities Act. In addition, we may enter into derivative transactions with third parties, or sell securities not covered by this prospectus to third parties in privately negotiated transactions. If the applicable prospectus supplement indicates, in connection with those derivatives, the third parties may sell securities covered by this prospectus and the applicable prospectus supplement, including short sale transactions. If so, the third party may use securities pledged by us or borrowed from us or others to settle those sales or to close out any related open borrowings of stock, and they may use securities received from us in settlement of those derivatives to close out any related open borrowings of stock. The third party in these sale transactions will be an underwriter and will be identified in the applicable prospectus supplement. In addition, we may otherwise loan or pledge securities to a financial institution or other third party that in turn may sell the securities short using this prospectus. The financial institution or other third party may transfer its economic short position to investors in our securities or in connection with a concurrent offering of other securities.

We will file a prospectus supplement to describe the terms of any offering of our securities covered by this prospectus. The prospectus supplement will disclose:

- the terms of the offer;
- the names of any underwriters, including any managing underwriters, as well as any dealers or agents;
- the purchase price of the securities from us;
- the net proceeds to us from the sale of the securities;
- any delayed delivery arrangements;
- any over-allotment or other options under which underwriters, if any, may purchase additional securities from us;
- any underwriting discounts, commissions or other items constituting underwriters' compensation, and any commissions paid to agents;
- in a subscription rights offering, whether we have engaged dealer-managers to facilitate the offering or subscription, including their name or names and compensation;
- any public offering price; and
- other facts material to the transaction.

We will bear all or substantially all of the costs, expenses and fees in connection with the registration of our securities under this prospectus. The underwriters, dealers and agents may engage in transactions with us, or perform services for us, in the ordinary course of business.

DESCRIPTION OF CAPITAL STOCK

General

We are authorized to issue 105,000,000 shares of all classes of capital stock, of which 100,000,000 shares are common stock, \$0.001 par value per share, and 5,000,000 shares are preferred stock, \$0.001 par value per share. Our capital is stated in U.S. dollars. As of May 17, 2021, we had 24,422,769 outstanding shares of common stock and no outstanding shares of preferred stock.

Common Stock

Voting

Holders of our common stock are entitled to one vote for each share held of record on all matters submitted to a vote of the stockholders, including the election of directors, and do not have cumulative voting rights. Accordingly, the holders of a majority of the shares of our common stock entitled to vote in any election of directors can elect all of the directors standing for election.

Dividends

Subject to preferences that may be applicable to any then outstanding preferred stock, the holders of common stock are entitled to receive dividends, if any, as may be declared from time to time by our board of directors out of legally available funds.

Liquidation

In the event of our liquidation, dissolution or winding up, holders of our 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, subject to the satisfaction of any liquidation preference granted to the holders of any outstanding shares of preferred stock.

Rights and Preferences

Holders of our common stock have no preemptive, conversion or subscription rights, and there are no redemption or sinking fund provisions applicable to our common stock. The rights, preferences and privileges of the holders of our common stock are subject to, and may be adversely affected by, the rights of the holders of shares of any series of our preferred stock that we may designate and issue in the future.

Fully Paid and Nonassessable

All of our outstanding shares of common stock are, and the shares of common stock to be issued in this offering will be, fully paid and nonassessable.

Transfer Agent and Registrar

American Stock Transfer & Trust Company, LLC is our transfer agent and registrar for the common stock.

The Nasdaq Global Market

Our common stock is listed on The Nasdaq Global Market under the symbol "KALV."

Preferred Stock

Under the terms of our Amended and Restated Certificate of Incorporation, our board of directors have the authority, without further action by our stockholders, to issue up to 5,000,000 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.

Our board of directors may authorize the issuance of preferred stock with voting or conversion rights that could adversely affect the voting power or other rights of the holders of our common 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 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 us and may adversely affect the market price of our common stock and the voting and other rights of the holders of our common stock. It is not possible to state the actual effect of the issuance of any shares of preferred stock on the rights of holders of common stock until the board of directors determines the specific rights attached to that preferred stock.

Anti-Takeover Effects of Provisions of Our Amended and Restated Certificate of Incorporation, Our Bylaws and Delaware Law

Delaware Anti-Takeover Law

We are subject to the provisions of Section 203 of the Delaware General Corporation Law. In general, Section 203 prohibits a publicly-held Delaware corporation from engaging in a “business combination” with an “interested stockholder” for a three-year period following the time that this stockholder becomes an interested stockholder, unless the business combination is approved in a prescribed manner. A “business combination” includes, among other things, a merger, asset or stock sale or other transaction resulting in a financial benefit to the interested stockholder. An “interested stockholder” is a person who, together with affiliates and associates, owns, or did own within three years prior to the determination of interested stockholder status, 15% or more of the corporation’s voting stock.

Under Section 203, a business combination between a corporation and an interested stockholder is prohibited unless it satisfies one of the following conditions: before the stockholder became interested, the board of directors approved either the business combination or the transaction which resulted in the stockholder becoming an interested stockholder; upon closing of the transaction which resulted in the stockholder becoming an interested stockholder, the interested stockholder owned at least 85% of the voting stock of the corporation outstanding at the time the transaction commenced, excluding for purposes of determining the voting stock outstanding, shares owned by persons who are directors and also officers, and employee stock plans, in some instances; or at or after the time the stockholder became interested, the business combination was approved by the board of directors of the corporation and authorized at an annual or special meeting of the stockholders by the affirmative vote of at least two-thirds of the outstanding voting stock which is not owned by the interested stockholder.

A Delaware corporation may “opt out” of these provisions with an express provision in its original certificate of incorporation or an express provision in its certificate of incorporation or bylaws resulting from a stockholders’ amendment approved by at least a majority of the outstanding voting shares. We have not opted out of these provisions. As a result, mergers or other takeover or change in control attempts of us may be discouraged or prevented.

Amended and Restated Certificate of Incorporation and Amended and Restated Bylaws

Our certificate of incorporation and bylaws contain certain provisions that are intended to enhance the likelihood of continuity and stability in the composition of the board of directors and which may have the effect of delaying, deferring or preventing a future takeover or change in control of the company unless such takeover or change in control is approved by the board of directors.

These provisions include:

Classified Board. Our certificate of incorporation provides that our board of directors is divided into three classes of directors, with the classes as nearly equal in number as possible. As a result, approximately one-third of our board of directors are elected each year. The classification of directors has the effect of making it more difficult for stockholders to change the composition of our board. Our bylaws also provide that, subject to any rights of holders of preferred stock to elect additional directors under specified circumstances, the number of directors is fixed exclusively pursuant to a resolution adopted by our board of directors.

Action by Written Consent; Special Meetings of Stockholders. Our certificate of incorporation provides that stockholder action can be taken only at an annual or special meeting of stockholders and cannot be taken by written consent in lieu of a meeting. Our bylaws provide that, subject to any special rights of the holders of any series of preferred stock, and to the requirements of applicable law, special meetings of the stockholders can be called only by or at the direction of the board of directors pursuant to a resolution adopted by a majority of the total number of directors which our board of directors would have if there were no vacancies. Except as described above, stockholders are not permitted to call a special meeting or to require the board of directors to call a special meeting.

Removal of Directors. Our bylaws provide that our directors may be removed only for cause by the affirmative vote of at least 66 2/3% of the voting power of our voting stock, voting together as a single class. This requirement of a supermajority vote to remove directors could enable a minority of our stockholders to prevent a change in the composition of our board.

Advance Notice Procedures. Our bylaws provide for 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 are 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 the 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, the 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 the company.

Super Majority Approval Requirements. The Delaware General Corporation Law generally provides that the affirmative vote of a majority of the shares entitled to vote on any matter is required to amend a corporation's certificate of incorporation or bylaws, unless either a corporation's certificate of incorporation or bylaws requires a greater percentage. Our certificate of incorporation and bylaws provide that the affirmative vote of holders of at least 66 2/3% of the total votes eligible to be cast in the election of directors are required to amend, alter, change or repeal certain provisions of the certificate of incorporation and bylaws. This requirement of a supermajority vote to approve amendments to certain provisions of our certificate of incorporation and bylaws could enable a minority of our stockholders to exercise veto power over any such amendments.

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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, corporate acquisitions and employee benefit plans. 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.

Exclusive Forum. Our certificate of incorporation provides that, to the fullest extent permitted by applicable law, the Court of Chancery of the State of Delaware will be the sole and exclusive forum for (i) any derivative action or proceeding brought on our behalf, (ii) any action asserting a claim of breach of a fiduciary duty owed by any of our directors, officers or other employees to us or our stockholders, (iii) any action asserting a claim against us arising pursuant to any provision of the Delaware General Corporation Law, our certificate of incorporation or our bylaws, or (iv) any other action asserting a claim against us that is governed by the internal affairs doctrine. Any person or entity purchasing or otherwise acquiring any interest in shares of our capital stock shall be deemed to have notice of and to have consented to the provisions of our certificate of incorporation described above. Although we believe these provisions benefit us by providing increased consistency in the application of Delaware law for the specified types of actions and proceedings, the provisions may have the effect of discouraging lawsuits against our directors and officers. The enforceability of similar choice of forum provisions in other companies' certificates of incorporation has been challenged in legal proceedings, and it is possible that, in connection with one or more actions or proceedings described above, a court could find the choice of forum provisions contained in our certificate of incorporation to be inapplicable or unenforceable.

DESCRIPTION OF DEBT SECURITIES

General

We will issue the debt securities offered by this prospectus and any accompanying prospectus supplement under an indenture to be entered into between us and the trustee identified in the applicable prospectus supplement. The terms of the debt securities will include those stated in the indenture and those made part of the indenture by reference to the Trust Indenture Act of 1939, as in effect on the date of the indenture. We have filed a copy of the form of indenture as an exhibit to the registration statement in which this prospectus is included. The indenture will be subject to and governed by the terms of the Trust Indenture Act of 1939.

We may offer under this prospectus up to an aggregate principal amount of \$300.0 million in debt securities, or if debt securities are issued at a discount, or in a foreign currency, foreign currency units or composite currency, the principal amount as may be sold for an aggregate public offering price of up to \$300.0 million. Unless otherwise specified in the applicable prospectus supplement, the debt securities will represent our direct, unsecured obligations and will rank equally with all of our other unsecured indebtedness.

We may issue the debt securities in one or more series with the same or various maturities, at par, at a premium, or at a discount. We will describe the particular terms of each series of debt securities in a prospectus supplement relating to that series, which we will file with the SEC. The prospectus supplement relating to the particular series of debt securities being offered will specify the particular amounts, prices and terms of those debt securities. These terms may include:

- the title of the series;
- the aggregate principal amount, and, if a series, the total amount authorized and the total amount outstanding;
- the issue price or prices, expressed as a percentage of the aggregate principal amount of the debt securities;
- any limit on the aggregate principal amount;
- the date or dates on which principal is payable;
- the interest rate or rates (which may be fixed or variable) or, if applicable, the method used to determine such rate or rates;
- the date or dates from which interest, if any, will be payable and any regular record date for the interest payable;
- the place or places where principal and, if applicable, premium and interest, is payable;
- the terms and conditions upon which we may, or the holders may require us to, redeem or repurchase the debt securities;
- the denominations in which such debt securities may be issuable, if other than denominations of \$1,000 or any integral multiple of that number;
- whether the debt securities are to be issuable in the form of certificated securities (as described below) or global securities (as described below);
- the portion of principal amount that will be payable upon declaration of acceleration of the maturity date if other than the principal amount of the debt securities;
- the currency of denomination;
- the designation of the currency, currencies or currency units in which payment of principal and, if applicable, premium and interest, will be made;

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- if payments of principal and, if applicable, premium or interest, on the debt securities are to be made in one or more currencies or currency units other than the currency of denomination, the manner in which the exchange rate with respect to such payments will be determined;
- if amounts of principal and, if applicable, premium and interest may be determined by reference to an index based on a currency or currencies or by reference to a commodity, commodity index, stock exchange index or financial index, then the manner in which such amounts will be determined;
- the provisions, if any, relating to any collateral provided for such debt securities;
- any addition to or change in the covenants and/or the acceleration provisions described in this prospectus or in the indenture;
- any events of default, if not otherwise described below under “Events of Default”;
- the terms and conditions, if any, for conversion into or exchange for shares of our common stock or preferred stock;
- any depositaries, interest rate calculation agents, exchange rate calculation agents or other agents; and
- the terms and conditions, if any, upon which the debt securities shall be subordinated in right of payment to our other indebtedness.

We may issue discount debt securities that provide for an amount less than the stated principal amount to be due and payable upon acceleration of the maturity of such debt securities in accordance with the terms of the indenture. We may also issue debt securities in bearer form, with or without coupons. If we issue discount debt securities or debt securities in bearer form, we will describe material U.S. federal income tax considerations and other material special considerations which apply to these debt securities in the applicable prospectus supplement.

We may issue debt securities denominated in or payable in a foreign currency or currencies or a foreign currency unit or units. If we do, we will describe the restrictions, elections, and general tax considerations relating to the debt securities and the foreign currency or currencies or foreign currency unit or units in the applicable prospectus supplement.

Debt securities offered under this prospectus and any prospectus supplement will be subordinated in right of payment to certain of our outstanding senior indebtedness. In addition, we will seek the consent of the holders of any such senior indebtedness prior to issuing any debt securities under this prospectus to the extent required by the agreements evidencing such senior indebtedness.

Registrar and Paying Agent

The debt securities may be presented for registration of transfer or for exchange at the corporate trust office of the security registrar or at any other office or agency that we maintain for those purposes. In addition, the debt securities may be presented for payment of principal, interest and any premium at the office of the paying agent or at any office or agency that we maintain for those purposes.

Conversion or Exchange Rights

Debt securities may be convertible into or exchangeable for shares of our common stock. The terms and conditions of conversion or exchange will be stated in the applicable prospectus supplement. The terms will include, among others, the following:

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

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- provisions regarding the convertibility or exchangeability of the debt securities, including who may convert or exchange;
- events requiring adjustment to the conversion or exchange price;
- provisions affecting conversion or exchange in the event of our redemption of the debt securities; and
- any anti-dilution provisions, if applicable.

Registered Global Securities

If we decide to issue debt securities in the form of one or more global securities, then we will register the global securities in the name of the depositary for the global securities or the nominee of the depositary, and the global securities will be delivered by the trustee to the depositary for credit to the accounts of the holders of beneficial interests in the debt securities.

The prospectus supplement will describe the specific terms of the depositary arrangement for debt securities of a series that are issued in global form. None of us, the trustee, any payment agent or the security registrar will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in a global debt security or for maintaining, supervising or reviewing any records relating to these beneficial ownership interests.

No Protection in the Event of Change of Control

The form indenture does not have any covenants or other provisions providing for a put or increased interest or otherwise that would afford holders of our debt securities additional protection in the event of a recapitalization transaction, a change of control or a highly leveraged transaction. If we offer any covenants or provisions of this type with respect to any debt securities covered by this prospectus, we will describe them in the applicable prospectus supplement.

Covenants

Unless otherwise indicated in this prospectus or the applicable prospectus supplement, our debt securities will not have the benefit of any covenants that limit or restrict our business or operations, the pledging of our assets or the incurrence by us of indebtedness. We will describe in the applicable prospectus supplement any material covenants in respect of a series of debt securities.

Merger, Consolidation or Sale of Assets

The form of indenture provides that we will not consolidate with or merge into any other person or convey, transfer, sell or lease our properties and assets substantially as an entirety to any person, unless:

- we are the surviving person of such merger or consolidation, or if we are not the surviving person, the person formed by the consolidation or into or with which we are merged or the person to which our properties and assets are conveyed, transferred, sold or leased, is a corporation organized and existing under the laws of the U.S., any state or the District of Columbia or a corporation or comparable legal entity organized under the laws of a foreign jurisdiction and has expressly assumed all of our obligations, including the payment of the principal of and, premium, if any, and interest on the debt securities and the performance of the other covenants under the indenture; and
- immediately before and immediately after giving effect to the transaction on a pro forma basis, no event of default, and no event which, after notice or lapse of time or both, would become an event of default, has occurred and is continuing under the indenture.

Events of Default

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

- we fail to pay any principal or premium, if any, when it becomes due;
- we fail to pay any interest within 30 days after it becomes due;
- we fail to observe or perform any other covenant in the debt securities or the indenture for 60 days after written notice specifying the failure from the trustee or the holders of not less than 25% in aggregate principal amount of the outstanding debt securities of that series; and
- certain events involving bankruptcy, insolvency or reorganization of us or any of our significant subsidiaries.

The trustee may withhold notice to the holders of the debt securities of any series of any default, except in payment of principal of or premium, if any, or interest on the debt securities of a series, if the trustee considers it to be in the best interest of the holders of the debt securities of that series to do so.

If an event of default (other than an event of default resulting from certain events of bankruptcy, insolvency or reorganization) occurs, and is continuing, then the trustee or the holders of not less than 25% in aggregate principal amount of the outstanding debt securities of any series may accelerate the maturity of the debt securities. If this happens, the entire principal amount, plus the premium, if any, of all the outstanding debt securities of the affected series plus accrued interest to the date of acceleration will be immediately due and payable. At any time after the acceleration, but before a judgment or decree based on such acceleration is obtained by the trustee, the holders of a majority in aggregate principal amount of outstanding debt securities of such series may rescind and annul such acceleration if:

- all events of default (other than nonpayment of accelerated principal, premium or interest) have been cured or waived;
- all lawful interest on overdue interest and overdue principal has been paid; and
- the rescission would not conflict with any judgment or decree.

In addition, if the acceleration occurs at any time when we have outstanding indebtedness that is senior to the debt securities, the payment of the principal amount of outstanding debt securities may be subordinated in right of payment to the prior payment of any amounts due under the senior indebtedness, in which case the holders of debt securities will be entitled to payment under the terms prescribed in the instruments evidencing the senior indebtedness and the indenture.

If an event of default resulting from certain events of bankruptcy, insolvency or reorganization occurs, the principal, premium and interest amount with respect to all of the debt securities of any series will be due and payable immediately without any declaration or other act on the part of the trustee or the holders of the debt securities of that series.

The holders of a majority in principal amount of the outstanding debt securities of a series will have the right to waive any existing default or compliance with any provision of the indenture or the debt securities of that series and to direct the time, method and place of conducting any proceeding for any remedy available to the trustee, subject to certain limitations specified in the indenture.

No holder of any debt security of a series will have any right to institute any proceeding with respect to the indenture or for any remedy under the indenture, unless:

- the holder gives to the trustee written notice of a continuing event of default;
- the holders of at least 25% in aggregate principal amount of the outstanding debt securities of the affected series make a written request and offer reasonable indemnity to the trustee to institute a proceeding as trustee;

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- the trustee fails to institute a proceeding within 60 days after such request; and
- the holders of a majority in aggregate principal amount of the outstanding debt securities of the affected series do not give the trustee a direction inconsistent with such request during such 60-day period.

These limitations do not, however, apply to a suit instituted for payment on debt securities of any series on or after the due dates expressed in the debt securities.

We will periodically deliver certificates to the trustee regarding our compliance with our obligations under the indenture.

Modification and Waiver

From time to time, we and the trustee may, without the consent of holders of the debt securities of one or more series, amend the indenture or the debt securities of one or more series, or supplement the indenture, for certain specified purposes, including:

- to provide that the surviving entity following a change of control permitted under the indenture will assume all of our obligations under the indenture and debt securities;
- to provide for certificated debt securities in addition to uncertificated debt securities;
- to comply with any requirements of the SEC under the Trust Indenture Act of 1939;
- to provide for the issuance of and establish the form and terms and conditions of debt securities of any series as permitted by the indenture;
- to cure any ambiguity, defect or inconsistency, or make any other change that does not materially and adversely affect the rights of any holder; and
- to appoint a successor trustee under the indenture with respect to one or more series.

From time to time we and the trustee may, with the consent of holders of at least a majority in principal amount of an outstanding series of debt securities, amend or supplement the indenture or the debt securities series, or waive compliance in a particular instance by us with any provision of the indenture or the debt securities. We may not, however, without the consent of each holder affected by such action, modify or supplement the indenture or the debt securities or waive compliance with any provision of the indenture or the debt securities in order to:

- reduce the amount of debt securities whose holders must consent to an amendment, supplement, or waiver to the indenture or such debt security;
- reduce the rate of or change the time for payment of interest or reduce the amount of or postpone the date for payment of sinking fund or analogous obligations;
- reduce the principal of or change the stated maturity of the debt securities;
- make any debt security payable in money other than that stated in the debt security;
- change the amount or time of any payment required or reduce the premium payable upon any redemption, or change the time before which no such redemption may be made;
- waive a default in the payment of the principal of, premium, if any, or interest on the debt securities or a redemption payment;
- waive a redemption payment with respect to any debt securities or change any provision with respect to redemption of debt securities; or
- take any other action otherwise prohibited by the indenture to be taken without the consent of each holder affected by the action.

Defeasance of Debt Securities and Certain Covenants in Certain Circumstances

The form indenture permits us, at any time, to elect to discharge our obligations with respect to one or more series of debt securities by following certain procedures described in the indenture. These procedures will allow us either:

- to defease and be discharged from any and all of our obligations with respect to any debt securities except for the following obligations (which discharge is referred to as “legal defeasance”):
 1. to register the transfer or exchange of such debt securities;
 2. to replace temporary or mutilated, destroyed, lost or stolen debt securities;
 3. to compensate and indemnify the trustee; or
 4. to maintain an office or agency in respect of the debt securities and to hold monies for payment in trust; or
- to be released from our obligations with respect to the debt securities under certain covenants contained in the indenture, as well as any additional covenants which may be contained in the applicable supplemental indenture (which release is referred to as “covenant defeasance”).

In order to exercise either defeasance option, we must irrevocably deposit with the trustee or other qualifying trustee, in trust for that Purpose:

- money;
- U.S. Government Obligations (as described below) or Foreign Government Obligations (as described below) that through the scheduled payment of principal and interest in accordance with their terms will provide money; or
- a combination of money and/or U.S. Government Obligations and/or Foreign Government Obligations sufficient in the written opinion of a nationally-recognized firm of independent accountants to provide money;

that, in each case specified above, provides a sufficient amount to pay the principal of, premium, if any, and interest, if any, on the debt securities of the series, on the scheduled due dates or on a selected date of redemption in accordance with the terms of the indenture.

In addition, defeasance may be effected only if, among other things:

- in the case of either legal or covenant defeasance, we deliver to the trustee an opinion of counsel, as specified in the indenture, stating that as a result of the defeasance neither the trust nor the trustee will be required to register as an investment company under the Investment Company Act of 1940;
- in the case of legal defeasance, we deliver to the trustee an opinion of counsel stating that we have received from, or there has been published by, the Internal Revenue Service a ruling to the effect that, or there has been a change in any applicable federal income tax law with the effect that (and the opinion shall confirm that), the holders of outstanding debt securities will not recognize income, gain or loss for U.S. federal income tax purposes solely as a result of such legal defeasance and will be subject to U.S. federal income tax on the same amounts, in the same manner, including as a result of prepayment, and at the same times as would have been the case if legal defeasance had not occurred;
- in the case of covenant defeasance, we deliver to the trustee an opinion of counsel to the effect that the holders of the outstanding debt securities will not recognize income, gain or loss for U.S. federal income tax purposes as a result of covenant defeasance and will be subject to U.S. federal income tax on the same amounts, in the same manner and at the same times as would have been the case if covenant defeasance had not occurred; and
- certain other conditions described in the indenture are satisfied.

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If we fail to comply with our remaining obligations under the indenture and applicable supplemental indenture after a covenant defeasance of the indenture and applicable supplemental indenture, and the debt securities are declared due and payable because of the occurrence of any undefeased event of default, the amount of money and/or U.S. Government Obligations and/or Foreign Government Obligations on deposit with the trustee could be insufficient to pay amounts due under the debt securities of the affected series at the time of acceleration. We will, however, remain liable in respect of these payments.

The term “U.S. Government Obligations” as used in the above discussion means securities that are direct obligations of or non-callable obligations guaranteed by the United States of America for the payment of which obligation or guarantee the full faith and credit of the United States of America is pledged.

The term “Foreign Government Obligations” as used in the above discussion means, with respect to debt securities of any series that are denominated in a currency other than U.S. dollars, (1) direct obligations of the government that issued or caused to be issued such currency for the payment of which obligations its full faith and credit is pledged or (2) obligations of a person controlled or supervised by or acting as an agent or instrumentality of such government the timely payment of which is unconditionally guaranteed as a full faith and credit obligation by that government, which in either case under clauses (1) or (2), are not callable or redeemable at the option of the issuer.

Regarding the Trustee

We will identify the trustee with respect to any series of debt securities in the prospectus supplement relating to the applicable debt securities. You should note that if the trustee becomes a creditor of ours, the indenture and the Trust Indenture Act of 1939 limit the rights of the trustee to obtain payment of claims in certain cases, or to realize on certain property received in respect of any such claim, as security or otherwise. The trustee and its affiliates may engage in, and will be permitted to continue to engage in, other transactions with us and our affiliates. If, however, the trustee acquires any “conflicting interest” within the meaning of the Trust Indenture Act of 1939, it must eliminate such conflict or resign.

The holders of a majority in principal amount of the then outstanding debt securities of any series may direct the time, method and place of conducting any proceeding for exercising any remedy available to the trustee. If an event of default occurs and is continuing, the trustee, in the exercise of its rights and powers, must use the degree of care and skill of a prudent person in the conduct of his or her own affairs. Subject to that provision, the trustee will be under no obligation to exercise any of its rights or powers under the indenture at the request of any of the holders of the debt securities, unless they have offered to the trustee reasonable indemnity or security.

No Individual Liability of Incorporators, Stockholders, Officers or Directors

Each indenture provides that no incorporator and no past, present or future stockholder, officer or director of our company or any successor corporation in those capacities will have any individual liability for any of our obligations, covenants or agreements under the debt securities or such indenture.

Governing Law

The indentures and the debt securities will be governed by, and construed in accordance with, the laws of the State of New York.

DESCRIPTION OF WARRANTS

General

We may issue warrants for the purchase of our debt securities, preferred stock, common stock, or any combination thereof. Warrants may be issued independently or together with our debt securities, preferred stock or common stock and may be attached to or separate from any offered securities. Each series of warrants will be issued under a separate warrant agreement to be entered into between us and a bank or trust company, as warrant agent. The warrant agent will act solely as our agent in connection with the warrants. The warrant agent will not have any obligation or relationship of agency or trust for or with any holders or beneficial owners of warrants. This summary of certain provisions of the warrants is not complete. For the terms of a particular series of warrants, you should refer to the prospectus supplement for that series of warrants and the warrant agreement for that particular series.

Debt Warrants

The prospectus supplement relating to a particular issue of warrants to purchase debt securities will describe the terms of the debt warrants, including the following:

- the title of the debt warrants;
- the offering price for the debt warrants, if any;
- the aggregate number of the debt warrants;
- the designation and terms of the debt securities, including any conversion rights, purchasable upon exercise of the debt warrants;
- if applicable, the date from and after which the debt warrants and any debt securities issued with them will be separately transferable;
- the principal amount of debt securities that may be purchased upon exercise of a debt warrant and the exercise price for the warrants, which may be payable in cash, securities or other property;
- the dates on which the right to exercise the debt warrants will commence and expire;
- if applicable, the minimum or maximum amount of the debt warrants that may be exercised at any one time;
- whether the debt warrants represented by the debt warrant certificates or debt securities that may be issued upon exercise of the debt warrants will be issued in registered or bearer form;
- information with respect to book-entry procedures, if any;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- the antidilution provisions of the debt warrants, if any;
- the redemption or call provisions, if any, applicable to the debt warrants;
- any provisions with respect to the holder's right to require us to repurchase the debt warrants upon a change in control or similar event; and
- any additional terms of the debt warrants, including procedures and limitations relating to the exchange, exercise, and settlement of the debt warrants.

Debt warrant certificates will be exchangeable for new debt warrant certificates of different denominations. Debt warrants may be exercised at the corporate trust office of the warrant agent or any other office indicated in

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the prospectus supplement. Prior to the exercise of their debt warrants, holders of debt warrants will not have any of the rights of holders of the debt securities purchasable upon exercise and will not be entitled to payment of principal or any premium, if any, or interest on the debt securities purchasable upon exercise.

Equity Warrants

The prospectus supplement relating to a particular series of warrants to purchase our common stock or preferred stock will describe the terms of the warrants, including the following:

- the title of the warrants;
- the offering price for the warrants, if any;
- the aggregate number of warrants;
- the designation and terms of the common stock or preferred stock that may be purchased upon exercise of the warrants;
- if applicable, the designation and terms of the securities with which the warrants are issued and the number of warrants issued with each security;
- if applicable, the date from and after which the warrants and any securities issued with the warrants will be separately transferable;
- the number of shares of common stock or preferred stock that may be purchased upon exercise of a warrant and the exercise price for the warrants;
- the dates on which the right to exercise the warrants shall commence and expire;
- if applicable, the minimum or maximum amount of the warrants that may be exercised at any one time;
- the currency or currency units in which the offering price, if any, and the exercise price are payable;
- if applicable, a discussion of material U.S. federal income tax considerations;
- the antidilution provisions of the warrants, if any;
- the redemption or call provisions, if any, applicable to the warrants;
- any provisions with respect to a holder's right to require us to repurchase the warrants upon a change in control or similar event; and
- any additional terms of the warrants, including procedures and limitations relating to the exchange, exercise and settlement of the warrants.
- Holders of equity warrants will not be entitled:
 - to vote, consent, or receive dividends;
 - receive notice as stockholders with respect to any meeting of stockholders for the election of our directors or any other matter; or
 - exercise any rights as stockholders.

DESCRIPTION OF SUBSCRIPTION RIGHTS

We may issue subscription rights to purchase our common stock, preferred stock or debt securities. These subscription rights may be offered independently or together with any other security offered hereby and may or may not be transferable by the stockholder receiving the subscription rights in such offering. In connection with any offering of subscription rights, we may enter into a standby arrangement with one or more underwriters or other purchasers pursuant to which the underwriters or other purchasers may be required to purchase any securities remaining unsubscribed for after such offering.

The prospectus supplement relating to any subscription rights we offer, if any, will, to the extent applicable, include specific terms relating to the offering, including some or all of the following:

- the price, if any, for the subscription rights;
- the exercise price payable for our common stock, preferred stock or debt securities upon the exercise of the subscription rights;
- the number of subscription rights to be issued to each stockholder;
- the number and terms of our common stock, preferred stock or debt securities which may be purchased per each subscription right;
- the extent to which the subscription rights are transferable;
- any other terms of the subscription rights, including the terms, procedures and limitations relating to the exchange and exercise of the subscription rights;
- the date on which the right to exercise the subscription rights shall commence, and the date on which the subscription rights shall expire;
- the extent to which the subscription rights may include an over-subscription privilege with respect to unsubscribed securities or an over-allotment privilege to the extent the securities are fully subscribed; and
- if applicable, the material terms of any standby underwriting or purchase arrangement which may be entered into by us in connection with the offering of subscription rights.

The description in the applicable prospectus supplement of any subscription rights we offer will not necessarily be complete and will be qualified in its entirety by reference to the applicable subscription rights certificate, which will be filed with the SEC if we offer subscription rights. We urge you to read the applicable subscription rights certificate and any applicable prospectus supplement in their entirety.

DESCRIPTION OF UNITS

We may issue units consisting of some or all of the securities described above, in any combination, including common stock, preferred stock, warrants and/or debt securities. The terms of these units will be set forth in a prospectus supplement. The description of the terms of these units in the related prospectus supplement will not be complete. You should refer to the applicable form of unit and unit agreement for complete information with respect to these units.

LEGAL MATTERS

Certain legal matters in connection with this offering will be passed upon by Fenwick & West LLP, San Francisco, California. Any underwriters or agents will be advised about legal matters relating to any offering by their own counsel.

EXPERTS

The financial statements, incorporated in this prospectus by reference from the Company's Annual Report on Form 10-K, have been audited by Deloitte & Touche LLP, an independent registered public accounting firm, as stated in their report, which is incorporated herein by reference. Such consolidated financial statements have been so incorporated in reliance upon the report of Deloitte & Touche LLP given upon their authority as experts in accounting and auditing.

WHERE YOU CAN FIND MORE INFORMATION

We are subject to the informational requirements of the Securities Exchange Act of 1934, as amended (the Exchange Act) and are required to file annual, quarterly and other reports, proxy statements and other information with the SEC. The SEC maintains an Internet site (<http://www.sec.gov>) that contains reports, proxy and information statements, and various other information about us.

Information about us is also available at our website at <http://www.kalvista.com>. However, the information on our website is not a part of this prospectus and is not incorporated by reference into this prospectus.

INCORPORATION OF INFORMATION BY REFERENCE

The SEC allows us to "incorporate by reference" information that we file with the SEC, which means that we can disclose important information to you by referring you to those other documents. The information incorporated by reference is an important part of this prospectus, and information we file later with the SEC will automatically update and supersede this information. We incorporate by reference the documents listed below and any future filings we make with the SEC under Section 13(a), 13(c), 14, or 15(d) of the Exchange Act prior to the termination of any offering of securities made by this prospectus:

- (1) Our Annual Report on [Form 10-K](#) for the year ended April 30, 2020 filed with the SEC on July 1, 2020;
- (2) Our Quarterly Reports on Form 10-Q for the quarters ended July 31, 2020, October 31, 2020 and January 31, 2021 and filed with the SEC on [September 14, 2020](#), [December 10, 2020](#) and [March 11, 2021](#), respectively;
- (3) Our Current Reports on Form 8-K filed on [June 11, 2020](#), [October 2, 2020](#), [November 16, 2020](#), [December 1, 2020](#), [December 18, 2020](#), [January 27, 2021](#), [February 11, 2021](#) (excluding any information furnished in such reports under Item 2.02) and [March 19, 2021](#);
- (4) Our Definitive Proxy Statement on [Schedule 14A](#), filed with the SEC on August 25, 2020 (but only with respect to information required by Part III of our Annual Report on [Form 10-K](#) for the year ended April 30, 2020, which information shall update and supersede information included in Part III of our Annual Report on Form 10-K for the year ended April 30, 2020);
- (5) The description of our common stock in our Registration Statement on [Form 8-A](#) (No. 001-36830) filed with the SEC on February 2, 2015, and including any other amendments or reports filed for the purpose of updating such description; and

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- (6) All other filings pursuant to the Exchange Act after the date of the initial registration statement and prior to the effectiveness of the registration statement.

Upon written or oral request, we will provide without charge to each person, including any beneficial owner, to whom this prospectus is delivered, a copy of any or all of such information that has been incorporated herein by reference (other than exhibits to such documents unless such exhibits are specifically incorporated by reference into the documents that this prospectus incorporates). Written or oral requests for copies should be directed KalVista Pharmaceuticals, Inc., Attn: Investor Relations, 55 Cambridge Parkway, Suite 901 East, Cambridge, Massachusetts, 02142, telephone number (857) 999-0075. See the section of this prospectus entitled “Where You Can Find More Information” for information concerning how to read and obtain copies of materials that we file with the SEC.

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

9,484,199 Shares of Common Stock

Pre-Funded Warrants to Purchase 182,470 Shares of Common Stock

KALVISTA PHARMACEUTICALS, INC.



PROSPECTUS SUPPLEMENT

The date of this prospectus supplement is December 23, 2022
