

REGENXBIO INC.
Common Stock

Pre-funded Warrants to Purchase Shares of Common Stock

This free writing prospectus relates only to the public offering of shares of common stock and pre-funded warrants to purchase shares of common stock by REGENXBIO Inc. and should be read together with the preliminary prospectus supplement dated July 16, 2026 (the “Preliminary Prospectus Supplement”), and the accompanying base prospectus, in each case, including the documents incorporated by reference therein. The information in this free writing prospectus updates and, to the extent inconsistent, supersedes the information in the Preliminary Prospectus Supplement. This free writing prospectus supplements the Preliminary Prospectus Supplement primarily to reflect the addition of certain pre-funded warrants, and the shares of common stock issuable upon the exercise of such pre-funded warrants, to the securities being offered by REGENXBIO Inc. in this offering. Except as otherwise indicated, all information in this free writing prospectus and the Preliminary Prospectus Supplement assumes no exercise by the underwriters of their option to purchase additional shares of common stock and no exercise of the pre-funded warrants included in this offering.

This free writing prospectus is qualified in its entirety by reference to the Preliminary Prospectus Supplement and the accompanying base prospectus, in each case, including the documents incorporated by reference therein. Financial information and other information presented in the Preliminary Prospectus Supplement or incorporated by reference therein is deemed to have changed to the extent affected by the changes described herein. This free writing prospectus should be read together with the Preliminary Prospectus Supplement and the accompanying base prospectus, in each case, including the documents incorporated by reference therein, before making a decision in connection with an investment in the securities. Capitalized terms used in this free writing prospectus but not defined have the meanings given to them in the Preliminary Prospectus Supplement.

Issuer	REGENXBIO Inc.
Common stock offered by us	\$90,035,001 of shares of our common stock.
Pre-funded warrants offered by us	We are also offering, in lieu of common stock to certain investors who so choose, \$9,999,887.89 of pre-funded warrants to purchase shares of our common stock. The purchase price of each pre-funded warrant equals the price per share at which our common stock is being sold to the public in this offering, minus \$0.0001, which is the exercise price of each pre-funded warrant per share. The pre-funded warrants do not expire, and each pre-funded warrant will be exercisable at any time after the date of issuance of such pre-funded warrant, subject to an ownership limitation. See “Description of Pre-funded Warrants.” This free writing prospectus and the Preliminary Prospectus Supplement also relate to the offering of the shares of common stock issuable upon the exercise of such pre-funded warrants.
Option to purchase additional shares of common stock	The underwriters have the option to purchase up to an additional \$15,005,250 of shares of our common stock. The number of shares subject to the underwriters’ option equals 15% of the total number of shares of common stock that we are offering plus the shares of common stock underlying the pre-funded warrants.
Nasdaq listing	Our shares of common stock are listed on the Nasdaq Global Select Market (“Nasdaq”) under the symbol “RGNX.” We do not intend to list the pre-funded warrants on Nasdaq or any other national securities exchange or nationally recognized trading system. Without an active trading market, the liquidity of the pre-funded warrants will be limited. See “Description of Pre-funded Warrants.”

RISK FACTORS

As an investor participating in this offering, you will experience immediate substantial dilution.

The price per share of our common stock being offered is substantially higher than the net tangible book value per share of our common stock outstanding prior to this offering. As a result, investors purchasing common stock or pre-funded warrants in this offering will experience immediate and substantial dilution to the extent of the difference between the public offering price per share or pre-funded warrant and the net tangible book value of the shares or pre-funded warrants that you purchase in this offering. The future exercise of outstanding options, warrants and vesting of restricted stock units will result in further dilution of your investment.

Our management will have broad discretion over the actual amounts and timing of the expenditures of the proceeds we receive in this offering and might not apply the proceeds in ways that enhance our financial condition or operating results or increase the value of your investment.

We intend to use the net proceeds we receive from this offering for general corporate purposes, which may include, but are not limited to, providing financing for clinical trials, capital expenditures, additions to working capital, development of our product candidate pipeline, expanding commercial capabilities in anticipation of commercial launches, general and administrative expenses or other corporate obligations, as well as to pay off outstanding indebtedness, if any, or acquire or invest in businesses, products or technologies. This expected use of our net proceeds from this offering represents our intention based upon our current plans and business conditions. The amount and timing of our actual expenditures may vary significantly depending on numerous factors, including success of our product candidate development and any potential commercialization efforts, cash generated from future operations, if any, and actual expenses to operate our business. Because of the number and variability of factors that will determine our use of the proceeds from this offering, their ultimate use may vary substantially from their currently intended use. As a result, our management will retain broad discretion over the allocation of the net proceeds we receive from this offering and could spend the proceeds in ways that do not necessarily improve our financial condition or operating results or enhance the value of our common stock and your investment therein. Additionally, until the net proceeds we receive are used, they may be placed in investments that do not produce income or that lose value. See “Use of Proceeds” located in the prospectus supplement for additional information.

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 Nasdaq. Without an active market, the liquidity of the pre-funded warrants will be limited.

We may not receive any additional funds upon the exercise of the pre-funded warrants.

Each pre-funded warrant may be exercised 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 our common stock determined according to the formula set forth in the pre-funded warrant. Accordingly, we may not receive any additional funds upon the exercise of the pre-funded warrants.

Holders of any pre-funded warrants purchased in this offering will have no rights as holders of our common stock with respect to the shares of common stock underlying such pre-funded warrants 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, holders of pre-funded warrants will have no rights with respect to the shares of our common stock underlying such pre-funded warrants including with respect to dividends and voting rights. Upon exercise of the pre-funded warrants, the holders will be entitled to exercise the rights of a holder of our common stock with respect to the shares of common stock underlying such pre-funded warrants only as to matters for which the record date occurs after the exercise date.

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

Holders of the pre-funded warrants 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 4.99% or 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 4.99% or 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. Such percentage may be increased by the holder of the pre-funded warrant to any other percentage not in excess of 19.99% upon at least 61 days' prior notice from the holder to us. As a result, you 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 you to do so. In such circumstance you could seek to sell your pre-funded warrants to realize value, but you may be unable to do so in the absence of an established trading market for the pre-funded warrants.

USE OF PROCEEDS

We estimate that the net proceeds from this offering will be approximately \$ million, or approximately \$ million if the underwriters exercise in full their option to purchase additional shares, after deducting underwriting discounts and commissions and estimated offering expenses payable by us. We will receive nominal proceeds, if any, upon exercise of the pre-funded warrants.

We currently plan to use the net proceeds we receive from this offering for general corporate purposes, which may include, but are not limited to, providing financing for clinical trials, capital expenditures, additions to working capital, development of our product candidate pipeline, expanding commercial capabilities in anticipation of commercial launches, general and administrative expenses or other corporate obligations, as well as to pay off outstanding indebtedness, if any, or acquire or invest in businesses, products or technologies.

The expected use of net proceeds of this offering represents our current intentions based upon our present plans and business conditions. The amounts we actually expend in these areas may vary significantly from our current intentions and will depend upon a number of factors, including success of our product candidate development and any potential commercialization efforts, cash generated from future operations, if any, and actual expenses to operate our business. As of the date of this prospectus supplement, we cannot specify with certainty all of the particular uses for the net proceeds to be received upon the closing of this offering. Accordingly, our management will have broad discretion in the application of the net proceeds, and investors will be relying on the judgment of our management regarding the application of the net proceeds of this offering.

Pending use of proceeds from this offering, we intend to invest the proceeds in a variety of capital preservation investments, including long-term and short-term, investment-grade, interest-bearing instruments.

DILUTION

If you invest in our common stock or pre-funded warrants in this offering, your ownership interest will be diluted immediately to the extent of the difference between the price per share of our common stock you pay in this offering and the net tangible book value per share of our common stock immediately after this offering.

As of March 31, 2026, our net tangible book value was \$21.1 million, or \$0.41 per share of common stock. Net tangible book value per share is equal to our total tangible assets, less our total liabilities, divided by the number of outstanding shares of our common stock. Dilution with respect to net tangible book value per share represents the difference between the amount per share paid by purchasers of shares of common stock in this offering and the net tangible book value per share of our common stock immediately after this offering. After giving effect to the sale of shares of common stock in this offering, and pre-funded warrants to purchase _____ shares of our common stock at the public offering price of \$ _____ per pre-funded warrant (which equals the public offering price per share of our common stock less the \$0.0001 per share exercise price of each such pre-funded warrant) (and excluding shares of our common stock issued and any proceeds received upon exercise of the pre-funded warrants or any resulting accounting associated with the pre-funded warrants), after deducting underwriting discounts and commissions and estimated offering expenses payable by us, at the public offering price of \$ _____ per share, our as adjusted net tangible book value as of March 31, 2026 would have been approximately \$ _____ million, or approximately \$ _____ per share of common stock. This represents an immediate increase in net tangible book value of \$ _____ per share to our existing stockholders and an immediate dilution of \$ _____ per share to investors participating in this offering.

The amounts in the table below assume no exercise by the underwriters of their option to purchase additional shares of common stock and the holders of the pre-funded warrants offered hereby do not exercise the pre-funded warrants.

The following table illustrates this dilution on a per share basis:

Offering price per share	\$ _____
Net tangible book value per share as of March 31, 2026	<u>\$0.41</u>
Increase in net tangible book value per share attributable to this offering	
As adjusted net tangible book value per share on March 31, 2026 after giving effect to this offering	\$ _____
Dilution per share to investors purchasing common stock in this offering	<u>\$ _____</u>

If the underwriters exercise their option to purchase additional shares of our common stock in full in this offering (and excluding shares of our common stock issued and any proceeds received upon exercise of the pre-funded warrants or any resulting accounting associated with the pre-funded warrants), the increase in as adjusted net tangible book value per share to existing stockholders would be \$ _____ per share and the dilution to purchasers of common stock in this offering would be \$ _____ per share.

If holders of the pre-funded warrants exercise the pre-funded warrants in full, our as adjusted net tangible book value per share of common stock after giving effect to this offering (but not the exercise of the underwriters' option to purchase additional shares) would have been \$ _____, and the dilution in as adjusted net tangible book value per share to new investors participating in this offering would have been \$ _____ per share.

The foregoing tables are calculated based on 51,617,233 shares of our common stock that were outstanding on March 31, 2026 and exclude the shares of common stock issuable upon the exercise of the pre-funded warrants being offered by us in this offering, as well as, as of March 31, 2026:

- 11,579,090 shares of our common stock issuable upon the exercise of stock options outstanding as of March 31, 2026 at a weighted average exercise price of \$25.03 per share;
- 3,495,485 shares of our common stock issuable pursuant to unvested restricted stock units and performance stock units outstanding as of March 31, 2026;

- 4,121,339 shares of common stock reserved for issuance under our 2025 Equity Incentive Plan and 662,624 shares reserved for issuance under our 2015 Employee Stock Purchase Plan;
- 869,603 shares of common stock issuable upon the exercise of pre-funded warrants outstanding as of March 31, 2026, at a weighted average exercise price of \$0.0001 per share; and
- 268,096 shares of common stock issuable upon the exercise of warrants outstanding as of March 31, 2026, at a weighted average exercise price of \$14.92 per share.

Subsequent to March 31, 2026 and as of the date of this prospectus supplement, an additional 2,318,735 shares of our common stock have been issued and sold pursuant to our at-the-market offering program.

In June 2026, we commenced an offer to certain non-executive employee optionholders to exchange certain eligible outstanding stock options for replacement options under our 2025 Equity Incentive Plan. The offer expired on July 1, 2026. Pursuant to the offer, we accepted for exchange options to purchase 1,940,394 shares of common stock, representing approximately 67.0% of the shares underlying eligible options. All tendered eligible options were canceled effective July 2, 2026, and on the same day, in exchange therefor, we granted replacement options to purchase 775,401 shares of our common stock at an exercise price of \$13.28 per share.

New investors will experience further dilution if any of our outstanding options or warrants are exercised or new options are issued and exercised under our equity incentive plans. Furthermore, we may choose to raise additional capital through the sale of equity or convertible debt securities 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 in this manner, the issuance of such securities could result in further dilution of stockholders.

DESCRIPTION OF PRE-FUNDED WARRANTS

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

Form

The pre-funded warrants will be issued as individual warrant agreements to each individual purchaser of a pre-funded warrant. The form of pre-funded warrant will be filed as an exhibit to a Current Report on Form 8-K that we will file with the SEC in connection with the 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 our common stock purchased upon such exercise. In the event the registration statement or another registration statement registering the issuance of the number of shares of our common stock issuable upon the exercise is, for any reason, not effective at the time of such exercise, then the holder shall elect to exercise the pre-funded warrant through a cashless exercise, in which case the holder would receive upon such exercise the net number of shares of our common stock determined according to the formula set forth in the pre-funded warrants. No fractional shares of our common stock will be issued in connection with the exercise of a pre-funded warrant. In lieu of fractional shares, we will pay the holder an amount in cash equal to the fractional amount multiplied by the last closing trading price of our common stock on the exercise date.

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 4.99% or 9.99% for certain purchasers 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 4.99% or 9.99% for certain purchasers 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.

Antidilution and other adjustments

The exercise price per whole share of our common stock purchasable upon the exercise of the pre-funded warrants is \$0.0001 per share of our common stock. If at any time while a pre-funded warrant is outstanding, we pay cash dividends or make other distributions to holders of our common stock, then such holders of the pre-funded warrants shall generally be entitled to participate in such cash dividends or distributions to the same extent that the holder would have participated if the holder had held the number of shares of common stock acquirable upon complete exercise of its pre-funded warrant. 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 are 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 and also upon any distributions of assets, including cash, stock or other property to our stockholders. 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.

Exchange listing

We do not plan to apply to list the pre-funded warrants on Nasdaq, any other national securities exchange or any other nationally recognized trading system.

Fundamental transactions

In the event of a fundamental transaction, as described in the pre-funded warrants and generally including any merger or consolidation with or into another person, the sale, transfer or other disposition of all or substantially all of our assets, the acquisition of, or any person or group becoming the beneficial owner of, more than 50% of the voting power represented by our outstanding common stock, or the reorganization, recapitalization or reclassification of our 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 a holder's ownership of shares of our common stock, the holder of a pre-funded warrant does not have any rights or privileges of a holder of our common stock, including any voting rights, until such holder exercises the pre-funded warrant and receives the underlying common stock.

UNDERWRITING

The underwriters will purchase the pre-funded warrants pursuant to the underwriting agreement described in the Preliminary Prospectus Supplement on terms generally consistent with those applicable to the shares of common stock being sold in the offering. The per share underwriting discounts and commissions for the pre-funded warrants will be equal to the per share underwriting discounts and commissions on the shares of common stock sold in the offering.

MATERIAL U.S. FEDERAL INCOME TAX CONSIDERATIONS FOR NON-U.S. HOLDERS OF COMMON STOCK AND PRE-FUNDED WARRANTS

The following describes the material U.S. federal income tax consequences to non-U.S. holders (as defined below) of the acquisition, ownership and disposition of our common stock and pre-funded warrants issued pursuant to this offering. This discussion is not a complete analysis of all potential U.S. federal income tax consequences relating thereto, does not address the potential application of the Medicare contribution tax and does not address any estate or gift tax consequences or any tax consequences arising under any state, local or foreign tax laws, or any other U.S. federal tax laws, including alternative minimum tax laws. This discussion is based on the Internal Revenue Code of 1986, as amended, or the Code, Treasury Regulations promulgated thereunder, judicial decisions and published rulings and administrative pronouncements of the Internal Revenue Service, or IRS, all as in effect as of the date of this prospectus supplement. These authorities may change, possibly retroactively, resulting in U.S. federal income tax consequences different from those discussed below. We have not requested a ruling from the IRS with respect to the statements made and the conclusions reached in the following summary, and there can be no assurance that the IRS will agree with such statements and conclusions.

This discussion is limited to non-U.S. holders who purchase our common stock or pre-funded warrants issued pursuant to this offering and who hold our common stock or pre-funded warrants as a “capital asset” within the meaning of Section 1221 of the Code (generally, property held for investment). This discussion does not address all of the U.S. federal income tax consequences that may be relevant to a particular holder in light of such holder’s particular circumstances. This discussion also does not consider any specific facts or circumstances that may be relevant to holders subject to special rules under the U.S. federal income tax laws, including, without limitation, certain former citizens or long-term residents of the United States, partnerships or other pass-through entities, a non-U.S. governmental or sovereign entity or any entity qualifying under Section 892 of the Code, corporations that accumulate earnings to avoid U.S. federal income tax, banks, financial institutions, insurance companies, brokers, dealers or traders in securities, tax-exempt organizations, tax-qualified retirement plans and persons holding our common stock or pre-funded warrants as part of a hedging or conversion transaction or straddle, or a constructive sale, or other risk reduction strategy.

If an entity or arrangement that is classified as a partnership for U.S. federal income tax purposes holds our common stock, or pre-funded warrants the U.S. federal income tax treatment of a partner will generally depend on the status of the partner and the activities of the partnership. Partnerships holding our common stock or pre-funded warrants and the partners in such partnerships are urged to consult their tax advisors as to particular U.S. federal income tax consequences to them of holding and disposing of our common stock or pre-funded warrants.

PROSPECTIVE INVESTORS SHOULD CONSULT THEIR TAX ADVISORS REGARDING THE U.S. FEDERAL INCOME TAX CONSEQUENCES TO THEM OF ACQUIRING, OWNING AND DISPOSING OF OUR COMMON STOCK OR PRE-FUNDED WARRANTS IN THEIR PARTICULAR CIRCUMSTANCES, AS WELL AS ANY TAX CONSEQUENCES ARISING UNDER ANY STATE, LOCAL OR FOREIGN TAX LAWS AND ANY OTHER U.S. FEDERAL TAX LAWS.

Definition of non-U.S. holder

For purposes of this discussion, a non-U.S. holder is any beneficial owner of our common stock or pre-funded warrants that, for United States federal income tax purposes, is:

- a non-resident alien individual;
- a foreign corporation;

- an estate the income of which is not subject to United States federal income taxation regardless of its source; or
- a trust that does not have in effect a valid election under Treasury Regulations to be treated as a United States person and either (1) no court within the United States is able to exercise primary supervision over the trust's administration or (2) no United States person has the authority to control all substantial decisions of that trust.

Treatment of warrants

We intend to treat our warrants as a class of our common stock for U.S. federal income tax purposes. However, our position is not binding on the IRS and the IRS may treat the warrants as warrants to acquire our common stock. Accordingly, holders should consult their tax advisers regarding the U.S. federal tax consequences of an investment in the pre-funded warrants. The following discussion assumes our pre-funded warrants are properly treated as a class of our common stock.

Distributions on our common stock or pre-funded warrants

If we distribute cash or other property in respect of our common stock or pre-funded warrants, such distributions will constitute dividends for U.S. federal income tax purposes to the extent of our current or accumulated earnings and profits, as determined under U.S. federal income tax principles. To the extent a distribution with respect to our shares exceeds our current or accumulated earnings and profits, the amount will not be treated as a dividend. Amounts not treated as dividends for U.S. federal income tax purposes will constitute a return of capital to the extent of the holder's tax basis in our common stock or pre-funded warrants, and, thereafter, as gain realized on the sale or other disposition of our common stock, which is taxed as described in the section of this prospectus supplement titled "—Gain on sale, exchange, or other taxable disposition of our common stock or pre-funded warrants" below.

Subject to the discussion below regarding backup withholding and FATCA (defined below), dividends (out of earnings and profits) paid to a non-U.S. holder of our common stock or pre-funded warrants generally will be subject to U.S. federal withholding tax at a rate of 30% of the gross amount of the dividends, or such lower rate specified by an applicable income tax treaty. To receive the benefit of a reduced treaty rate, a non-U.S. holder must furnish to us or our paying agent a valid IRS Form W-8BEN or IRS Form W-8BEN-E (or applicable successor form) including a U.S. taxpayer identification number and certifying under penalties of perjury such holder's qualification for the reduced rate. This certification must be provided to us or our paying agent prior to the payment of dividends and must be updated periodically. If the non-U.S. holder holds the stock or pre-funded warrants through a financial institution or other agent acting on the non-U.S. holder's behalf, the non-U.S. holder will be required to provide appropriate documentation to the agent, which then will be required to provide certification to us or our paying agent, either directly or through other intermediaries. Non-U.S. holders that do not timely provide the required certification, but that qualify for a reduced treaty rate, may obtain a refund of any excess amounts withheld by timely filing an appropriate claim for refund with the IRS.

If a non-U.S. holder holds our common stock or pre-funded warrants in connection with the conduct of a trade or business in the United States, and dividends paid on our common stock or pre-funded warrants are effectively connected with such holder's U.S. trade or business (and are attributable to such holder's permanent establishment in the United States if required by an applicable tax treaty), the non-U.S. holder will be exempt from the U.S. federal withholding tax discussed in the previous paragraph. To claim the exemption, the non-U.S. holder must generally timely furnish to us or our paying agent a properly executed IRS Form W-8ECI (or applicable successor form).

Any dividends paid on our common stock or pre-funded warrants that are effectively connected with a non-U.S. holder's U.S. trade or business (and if required by an applicable income tax treaty, are attributable to a permanent establishment maintained by the non-U.S. holder in the United States) generally will be subject to U.S. federal income tax on a net income basis at the regular U.S. federal income tax rates in the same manner as if such holder were a resident of the United States. A non-U.S. holder that is a foreign corporation also may be subject to an additional branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of its effectively connected earnings and profits for the taxable year, as adjusted for certain items. Non-U.S. holders should consult their tax advisors regarding any applicable income tax treaties that may provide for different rules, reduced rates of withholding on dividends, or branch profits tax.

Gain on sale, exchange, or other taxable disposition of our common stock or pre-funded warrants

Subject to the discussion below regarding backup withholding and FATCA, a non-U.S. holder generally will not be subject to U.S. federal income tax on any gain realized upon the sale, exchange or other taxable disposition of our common stock or pre-funded warrants, unless:

- the gain is effectively connected with the non-U.S. holder's conduct of a trade or business in the United States, and if required by an applicable income tax treaty, is attributable to a permanent establishment maintained by the non-U.S. holder in the United States, in which case the non-U.S. holder generally will be subject to United States federal income tax on a net income basis with respect to such gain in the same manner as if such holder were a resident of the United States and, if the non-U.S. holder is a corporation for United States federal income tax purposes, may be subject to additional branch profits tax equal to 30% (or such lower rate specified by an applicable income tax treaty) of its effectively connected gains for the taxable year;
- the non-U.S. holder is a nonresident alien individual present in the United States for 183 days or more during the taxable year of disposition, and certain other requirements are met, in which case the non-U.S. holder generally will be subject to United States federal income tax at a 30% rate (or at a lower rate under an applicable income tax treaty) on the gain derived from the sale, which gain may be offset by U.S.-source capital losses for the year; or
- our common stock or pre-funded warrants constitute stock in a United States real property holding corporation, orUSRPHC, for U.S. federal income tax purposes at any time within the shorter of the five-year period preceding the disposition or the non-U.S. holder's holding period for our common stock or pre-funded warrants (the "relevant period") and the non-U.S. holder (i) disposes of our shares during a calendar year when our shares are no longer regularly traded on an established securities market or (ii) owned (directly, indirectly, and constructively) more than 5% of our shares at any time during the relevant period, in which case such a non-U.S. holder will be subject to tax on the gain on the disposition of shares generally as if the gain were effectively connected with the conduct of a trade or business in the United States, except that the branch profits tax will not apply.

The determination of whether we are a USRPHC depends on the fair market value of our U.S. real property interests relative to the fair market value of our other trade or business assets and our foreign real property interests. We believe we are not currently, and we do not anticipate becoming, a USRPHC for U.S. federal income tax purposes.

Exercise or expiration of warrants

In general, a non-U.S. Holder will not be required to recognize income, gain or loss upon the exercise of a pre-funded warrant by payment of the exercise price, except to the extent of cash paid in lieu of a fractional share. However, no discussion is provided herein regarding the U.S. federal income tax treatment on the exercise of a pre-funded warrant on a cashless basis, and non-U.S. Holders are urged to consult their tax advisors as to the exercise of a pre-funded warrant on a cashless basis.

If a pre-funded warrant expires without being exercised, a non-U.S. Holder that is engaged in a U.S. trade or business to which any income from the pre-funded warrant would be effectively connected or who is present in the United States for a period or periods aggregating 183 days or more during the calendar year in which the expiration occurs (and certain other conditions are met) will recognize a capital loss in an amount equal to such non-U.S. Holder's tax basis in the pre-funded warrant.

Information reporting and backup withholding

Annual reports are required to be filed with the IRS and provided to each non-U.S. holder indicating the amount of dividends on our common stock or pre-funded warrants paid to such holder and the amount of any tax withheld with respect to those dividends. These information reporting requirements apply even if no withholding was required because the dividends were effectively connected with the holder's conduct of a U.S. trade or business, or withholding was reduced or eliminated by an applicable income tax treaty. This information also may be made available under an income tax treaty or other agreement with the tax authorities in the country in which the non-U.S. holder resides or is established. Backup withholding, currently at a 24% rate, generally will not apply to payments to a non-U.S. holder of dividends on or the gross proceeds of a disposition of our common stock or pre-funded warrants provided the non-U.S. holder furnishes the required certification as to its non-U.S. status, such as by providing a valid IRS Form W-8BEN, IRS Form W-8BEN-E, IRS Form W-8EXP or IRS Form W-8ECI, or certain other requirements are met. Notwithstanding the foregoing, backup withholding may apply if the payor has actual knowledge, or reason to know, that the holder is a U.S. person who is not an exempt recipient.

Backup withholding is not an additional tax. If any amount is withheld under the backup withholding rules, the non-U.S. holder should consult with a U.S. tax advisor regarding the possibility of and procedure for obtaining a refund or a credit against the non-U.S. holder's U.S. federal income tax liability.

Foreign Account Tax Compliance Act

Sections 1471 through 1474 of the Code and Treasury Regulations issued thereunder (commonly referred to as the Foreign Account Tax Compliance Act, or FATCA) impose a 30% withholding tax on dividends paid on our shares to, and (subject to the proposed Treasury Regulations discussed below) the gross proceeds derived from the sale or other disposition of our shares by, a foreign entity if the foreign entity is:

- a "foreign financial institution" (as defined under FATCA) that does not furnish proper documentation, typically on IRS Form W-8BEN-E, evidencing either (i) an exemption from FATCA withholding or (ii) its compliance (or deemed compliance) with specified due diligence, reporting, withholding and certification obligations under FATCA or (iii) residence in a jurisdiction that has entered into an intergovernmental agreement with the United States relating to FATCA and compliance with the diligence and reporting requirements of the intergovernmental agreement and local implementing rules; or
- a "non-financial foreign entity" (as defined under FATCA) that does not provide sufficient documentation, typically on IRS Form W-8BEN-E, evidencing either (i) an exemption from FATCA or (ii) adequate information regarding substantial United States beneficial owners of such entity (if any).

Withholding under FATCA generally applies to payments of dividends on our shares and to payments of gross proceeds from a sale or other disposition of our shares. Withholding agents may, however, rely on proposed U.S. Treasury Regulations that would no longer require FATCA withholding on payments of gross proceeds. A withholding agent such as a broker, and not REGENXBIO, will determine whether or not to implement gross proceeds FATCA withholding.

If a dividend payment is subject to withholding both under FATCA and the withholding tax rules discussed above under "—Dividends," the withholding under FATCA may be credited against, and therefore reduce, such other withholding tax. Holders of shares should consult their own tax advisors regarding these requirements and whether they may be relevant to their ownership and disposition of the shares.

Under certain circumstances, a non-U.S. holder will be eligible for refunds or credits of withholding taxes imposed under FATCA by filing a United States federal income tax return. Prospective investors should consult their tax advisors regarding the effect of FATCA on their ownership and disposition of our shares.

GENERAL

Additional conforming changes are hereby made to the Preliminary Prospectus Supplement to reflect the changes described in this free writing prospectus. All terms of the Preliminary Prospectus Supplement applicable to our shares of our common stock will be applicable to the shares of common stock underlying the pre-funded warrants upon issuance.

We filed a registration statement (including a preliminary prospectus supplement dated July 16, 2026 and the accompanying base prospectus) with the Securities and Exchange Commission for the offering to which this communication relates, which registration statement was declared effective on December 12, 2025. Before you invest, you should read the preliminary prospectus supplement and the accompanying base prospectus and other documents we have filed with the Securities and Exchange Commission for more complete information about us and the offering. You may get these documents for free by visiting EDGAR on the Securities and Exchange Commission website at www.sec.gov. Alternatively, copies may be obtained by contacting: Morgan Stanley & Co. LLC, Attention: Prospectus Department, 180 Varick Street, 2nd Floor, New York, NY 10014, or by email at prospectus@morganstanley.com; J.P. Morgan Securities LLC, c/o Broadridge Financial Solutions, 1155 Long Island Avenue, Edgewood, New York 11717 or by email at prospectus-eq_fi@jpmchase.com and postsalemanualrequests@broadridge.com; Leerink Partners LLC, Attention: Syndicate Department, 53 State Street, 40th Floor, Boston, MA 02109, or by telephone at 1 (800) 808-7525, ext. 6105, or by email at syndicate@leerink.com; Mizuho Securities USA LLC, Attention: Equity Capital Markets, 1271 Avenue of the Americas, 3rd Floor, New York, NY 10022, by telephone (212) 205-7600, or by email: US-ECM@mizuhogroup.com.