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March 14, 2018

VIA EDGAR AND HAND DELIVERY

CONFIDENTIAL

FOIA Confidential Treatment Request
Under 17 C.F.R. §200.83

Securities and Exchange Commission
Division of Corporation Finance
Office of Healthcare & Insurance
100 F Street, N.E.
Mail Stop 4720
Washington, D.C. 20549
Attention: Mr. Jeffrey Gabor

Re: Homology Medicines, Inc. | Anticipated Price Range
Registration Statement on Form S-1 (File No. 333-223409*)*

Dear Mr. Gabor:

On behalf of Homology Medicines, Inc. (the "***Company***"), we submit this letter to the Staff (the "***Staff***") of the Division of Corporation Finance of the Securities and Exchange Commission (the "***Commission***"). The Company originally submitted the above-referenced Registration Statement (the "***Registration Statement***") to the Commission on December 22, 2017. The purpose of this letter is to respond to an outstanding comment relating to stock-based compensation and beneficial conversion features that was provided to the Company in a letter from the Staff dated January 19, 2018, as well as to provide proposed responses to a comment from the Staff received by letter dated March 6, 2018, also related to the Registration Statement. Because of the commercially sensitive nature of the information contained herein, this submission is accompanied by the Company's request for confidential treatment of selected portions of this letter pursuant to Rule 83 of the Commission's Rules on Information and Requests, 17 C.F.R. § 200.83. A redacted letter has been filed on EDGAR, omitting the confidential information contained in this letter.

For the convenience of the Staff, we are providing to the Staff copies of this letter by hand delivery. In this letter, we have recited the prior comment from the Staff in italicized, bold type and have followed the comment with the Company's response.

Comment 4 (January 19, 2018): Once you have an estimated offering price or range, please provide us an analysis explaining the reasons for the differences between the recent valuations of your common stock leading up to the IPO and the estimated offering price. This information will help facilitate our review of your accounting for equity issuances including stock compensation and beneficial conversion features.

ESTIMATED IPO PRICE RANGE

To assist the Staff in its review, the Company advises the Staff that, although not yet reflected in the Registration Statement, based on discussions with the Company's board of directors and reflecting input from the lead underwriters (the "***Underwriters***") for the Company's initial public offering ("***IPO***"), if the Company were to commence marketing of the transaction today, the Company presently anticipates that the estimated price range would be approximately $[***] to $[***] per share for the Company's common stock (the "***Preliminary IPO Price Range***") with a midpoint of the anticipated range of approximately $[***] per share (the "***Preliminary Assumed IPO Price***"). The Preliminary IPO Price Range and Preliminary Assumed IPO Price do not reflect the reverse stock split that the Company intends to effect prior to the Commission's declaration of effectiveness of the Registration Statement.[1] The Company advises the Staff that the final range to be included in a pre-effective amendment to the Registration Statement, after giving effect to an appropriate reverse stock split, will include a price range of no more than $2.00, if the maximum price is $10.00 per share or less, or 20%, if the maximum price is greater than $10.00 per share, unless otherwise approved by the Staff.

The Company's final post-split Preliminary IPO Price Range remains under discussion between the Company and the Underwriters, and a bona fide price range will be included in an amendment to the Registration Statement prior to any distribution of the preliminary prospectus in connection with the Company's road show.

ANALYSIS OF STOCK OPTION GRANTS IN PRECEDING 12 MONTHS

The following table summarizes by grant date the number of shares of common stock underlying stock options granted during the past year, as well as the associated per share exercise price and the estimated fair value per share of the Company's common stock on the date of option grant, and the estimated fair value of options per share used to determine stock-based compensation expense for financial reporting purposes.

Grant Date	Number of Shares Underlying Stock Options Granted	Per Share Exercise Price of Options	Estimated Fair Value of Common Stock per Share on Date of Option Grant	Per Share Estimated Fair Value of Options
September 7, 2017	661,500	$0.55	$0.55	$0.29
December 7, 2017	4,991,496	$1.26	$1.26	$0.67

The Company expects that additional option grants made prior to the offering shall have an exercise price equal to the initial public offering price per share for shares of common stock sold in the offering pursuant to the Registration Statement.

[1] The Company intends to effect a reverse stock split of one-for-[***] shares of common stock prior to the Commission's declaration of effectiveness of the Registration Statement.

The Company's discussion of stock-based compensation for financial reporting purposes is primarily contained within the section of the Registration Statement entitled "Management's Discussion and Analysis of Financial Condition and Results of Operations—Critical Accounting Policies and Use of Estimates—Stock-Based Compensation," which is included on pages 83 and 84 of the Registration Statement. As disclosed, the Company's board of directors has estimated the fair value of the Company's common stock at various grant dates, with input from management, considering the Company's most recently available third-party valuations of the common stock and the board of directors' assessment of additional objective and subjective factors that it believed were relevant, including:

- the prices at which the Company sold shares of preferred stock and the superior rights and preferences of the preferred stock relative to the Company's common stock at the time of each grant;
- the progress of the Company's research and development programs, including the status and results of preclinical studies for the Company's product candidates;
- the Company's stage of development and commercialization and business strategy;
- external market conditions affecting the life sciences industry and trends within the life sciences industry;
- the Company's financial position, including cash on hand, and the Company's historical and forecasted performance and operating results;
- the lack of an active public market for the Company's common stock and the Company's preferred stock;
- the likelihood of achieving a liquidity event, such as an IPO or sale of the Company in light of prevailing market conditions; and
- the analysis of IPOs and the market performance of similar companies in the life sciences industry.

Common Stock Valuation Methodologies

The Company's determination of the fair value of common stock was performed using methodologies, approaches and assumptions consistent with the American Institute of Certified Public Accountants' Accounting and Valuation Guide, *Valuation of Privately-Held-Company Equity Securities Issued as Compensation.* The Company's common stock valuations were performed using option-pricing method ("***OPM***") or a hybrid of the probability-weighted expected return method ("***PWERM***") and the OPM, which the Company refers to as the hybrid method. Each of the methods is described as follows:

- *OPM*. The OPM treats common stock and preferred stock as call options on the total equity value of a company, with exercise prices based on the value thresholds at which

the allocation among the various holders of a company's securities changes. Under this method, the common stock has value only if the funds available for distribution to stockholders exceed the value of the liquidation preferences at the time of a liquidity event, such as a strategic sale or merger. The common stock is modeled as a call option on the underlying equity value at a predetermined exercise price. In the model, the exercise price is based on a comparison with the total equity value rather than, as in the case of a regular call option, a comparison with a per share stock price. Thus, common stock is considered to be a call option with a claim on the enterprise at an exercise price equal to the remaining value immediately after the preferred stock liquidation preference is paid.

The OPM uses the Black-Scholes option-pricing model to price the call options. This model defines the fair values of securities as functions of the current fair value of a company and uses assumptions such as the anticipated timing of a potential liquidity event and the estimated volatility of the equity securities.

- *PWERM*. Under the PWERM methodology, the fair value of common stock is estimated based upon an analysis of future values for the Company, assuming various outcomes. The common stock value is based on the probability-weighted present value of expected future investment returns considering each of the possible outcomes available as well as the rights of each class of stock. The future value of the common stock under each outcome is discounted back to the valuation date at an appropriate risk-adjusted discount rate and probability weighted to arrive at an indication of value for the common stock.
- *Hybrid method*. The hybrid method is a PWERM where the equity value in one of the scenarios is calculated using an OPM. In the hybrid method used by the Company, two types of future-event scenarios were considered: an IPO scenario and a sale scenario. The enterprise value for the IPO scenario was determined using a market approach identified in a number of recent IPO transactions in the biotechnology and pharmaceutical industry. The Company compared the enterprise values of certain newly public companies and considered the stage of development, depth of clinical candidates in each company's product portfolio and the number of strategic partnerships and collaboration agreements compared to that of the Company at the time. Accordingly, the Company selected an enterprise value within the average of the Guideline Public Transactions with a focus on gene editing or gene therapy platform companies. For the market approach scenario, the recent transaction method was selected to calculate the enterprise value of the Company. The common stock value was based on the probability-weighted present value of expected future investment returns considering each of the potential possible outcomes available as well as the rights of each class of stock. The Company then applied a discount for lack of marketability to the common stock to account for the lack of access to an active public market.

Grant Date Fair Value Determinations

September 7, 2017 Option Grants. The Company's board of directors determined that the fair value of its common stock was $0.55 per share as of September 7, 2017 based on input from management, the objective and subjective criteria discussed above and the results of its most recent third-party valuation performed as of July 31, 2017, which was received by the Company in early-August 2017. In reaching this determination, the board of directors determined that no material changes had occurred in the business since July 31, 2017.

The July 31, 2017 valuation analysis was performed using the hybrid method, which considered a sale scenario and an IPO scenario, in addition to the market approach scenario, for the first time. For those future-event scenarios, the Company's management determined that the probability for the market approach scenario was 75% and for the IPO scenario was 5%, based on the Company's assessment of its development pipeline and market conditions. The valuation analysis also attributed a 20% probability to a sale at or below the preferred liquidation preference scenario.

In determining the enterprise value for the market approach scenario, the Company applied a recent transaction method. The market approach was selected as the Company had recently closed a Series B Preferred round of financing. This approach priced the common stock off the Series B Preferred implied price by considering the economic and control rights of the preferred shareholders versus common shareholders. For the sale scenario, the Company estimated time to completion for the sale as 2.3 years.

In determining the enterprise value for the IPO scenario, the Company applied the guideline public company method under the market approach, which analyzed enterprise values at the IPO date of publicly traded life sciences companies that recently completed IPOs. For the IPO scenario, the Company estimated time to completion for the IPO as 1.3 years and applied a risk-adjusted discount rate of 25%, which was determined based on a weighted average cost of capital model. The estimate of 1.3 years for completion of the IPO was based on the lack of receptivity for preclinical stage companies at the time and the expectation that the Company would plan the IPO timing to be a few months before the then assumed time for filing an Investigational New Drug ("***IND***") application for its lead product candidate.

In determining the enterprise value for the low case sale at or below liquidation preference scenario, the Company applied the guideline transaction method under the market approach, which analyzed enterprise values at the sale date of life sciences companies that recently completed acquisition transactions. Significant current risks of the business include: the need to obtain IND approval prior to the initiation of clinical trials, future clinical trials will need to be conducted to validate the safety, efficacy, and manufacturing feasibility (due to novel concept) of product candidates prior to potential U.S. Food and Drug Administration approval, and need for future funding in order to complete clinical trials. For the low sale at or below liquidation preference scenario, the Company estimated time to low sale event to be two years.

For the three future-event scenarios, the Company then applied a discount for lack of marketability of 30% under the market approach scenario and of 25% under the IPO scenario. The July 31, 2017 valuation analysis resulted in a valuation of the Company's common stock of $0.55

per share. Based on that result as well as consideration of other qualitative factors, the Company's board of directors determined that the fair value of the Company's common stock was $0.55 per share as of September 7, 2017, when it granted stock options for the purchase of 661,500 shares of common stock.

December 7, 2017 Option Grants. The Company's board of directors determined that the fair value of its common stock was $1.26 per share as of December 7, 2017 based on input from management, the objective and subjective criteria discussed above and the results of its most recent third-party valuation performed as of November 30, 2017, which was received by the Company in early-December 2017. In reaching this determination, the board of directors determined that no material changes had occurred in the business since November 30, 2017. Among the qualitative factors considered by the board of directors in determining the fair value of the Company's common stock were the following developments in the Company's business subsequent to September 7, 2017:

- In November 2017, the Company entered into a License and Collaboration Agreement executed between the Company and Novartis Institute for Biomedical Research ("***Novartis***"), dated November 6, 2017.
- In November 2017, the Company held its organizational meeting for the IPO and market conditions for the industry had improved.
- The Company experienced material advances in its technology and manufacturing platforms and improved pre-clinical data in its development programs.

The November 30, 2017 valuation analysis was performed using the hybrid method, which considered a sale scenario and an IPO scenario. For those two future-event scenarios, the Company's management determined that the probability for the sale scenario was 50% and for the IPO scenario was 50%.

In determining the enterprise value for the sale scenario, the Company applied a recent transaction method. The market approach was selected as the Company had recently closed a Series B Preferred round of financing. This approach priced the common stock based on the Series B Preferred implied price by considering the economic and control rights of the preferred shareholders versus common shareholders. The Company then considered an adjustment to this price to reflect the share appreciation of the Series B Preferred financing due to the signing of a collaboration agreement. The Company relied upon publicly disclosed transactions of collaboration agreements with public companies to determine the share price appreciation for the sale scenario. The Company estimated time to completion for the sale to be two years.

In determining the enterprise value for the IPO scenario, the Company applied the guideline transaction method under the market approach, which analyzed enterprise values at the IPO date of publicly traded life sciences companies that recently completed an IPO transaction. For the IPO scenario, the Company estimated time to completion for the IPO as 0.5 years and applied a risk-adjusted discount rate of 25% which was determined based on a weighted average cost of capital model. The estimate of 0.5 years for completion of the IPO was based on an improvement in the public equity markets for biopharmaceutical companies, scientific and business milestones that had been achieved including the signing of a collaboration agreement with Novartis and the decision to select underwriters for the IPO and the organizational meeting for the IPO being held.

For the two future-event scenarios, the Company then applied a discount for lack of marketability of 25% under the sale scenario and of 10% under the IPO scenario. The November 30, 2017 valuation analysis resulted in a valuation of the Company's common stock of $1.26 per share. Based on that result as well as consideration of other qualitative factors, the Company's board of directors determined that the fair value of the Company's common stock was $1.26 per share as of December 7, 2017, when it granted stock options for the purchase of 4,991,496 shares of common stock.

COMPARISON OF DECEMBER 7, 2017 VALUATION AND PRELIMINARY ASSUMED IPO PRICE

As noted above, the Preliminary IPO Price Range is $[***] to $[***] per share, with a Preliminary Assumed IPO Price of approximately $[***] per share. The Company notes that, as is typical in IPOs, the estimated price range for this offering was not derived using a formal determination of fair value, but was determined by negotiation between it and the Underwriters.

Among the factors that were considered in setting this range were the following:

- An analysis of the typical valuation ranges seen in recent IPOs for companies in the biopharmaceutical industry;
- The general condition of the securities markets and the recent market prices of, and the demand for, publicly traded common stock of generally comparable companies;
- An assumption that there would be a receptive public trading market for a gene therapy company like the Company; and
- An assumption that there would be sufficient demand for the Company's common stock to support an offering of the size contemplated by the proposed IPO.

The Company believes that the difference between the fair value of its common stock as of December 7, 2017 of $1.26 per share and the Preliminary Assumed IPO Price of approximately $[***] per share is the result of these factors and the following factors and positive developments with respect to our business that occurred subsequent to December 7, 2017:

- The anticipated price range for this offering is based only upon a scenario in which the Company completes this offering and is not probability weighted, in contrast to the Company's prior valuations of common stock, which considered other potential outcomes under the probability weighted expected return method, which would have resulted in a lower value of its common stock than an initial public offering.
- The anticipated price range for this offering necessarily assumes that the IPO has occurred and that a public market for the Company's common stock has been created, and, therefore, excludes any discount for lack of marketability of the Company's common stock, which was appropriately taken into account in the Company's determination of the fair value of its common stock on December 7, 2017.
- The Company's preferred stock currently has substantial economic rights and preferences over its common stock. Upon the closing of this offering, all outstanding shares of the Company's preferred stock will convert into common stock, thus eliminating the superior rights and preferences of its preferred stock as compared to its common stock.
- The significant benefits the Company expects to accrue as a result of becoming publicly traded through the IPO, including (i) a substantial increase in the Company's cash position after receiving the net proceeds from the IPO, (ii) an anticipated improved ability of the Company to raise equity and debt capital going forward, and at a lower expected cost of capital and with reduced borrowing costs, as a result of being a publicly traded company, and (iii) the expected increased attractiveness of the Company's equity as a currency to raise capital, compensate employees and other strategic transactions.

- The continued significant improvements to the Company's technology and manufacturing platforms as well as additional positive preclinical data from its gene editing platform. The Company's gene correction efficiency levels increased more than two-fold from November 2017 to the present date. In addition, the Company improved its manufacturing processes and achieved several successful production runs at a scale of 50 liters, significantly higher than what it had achieved as of November 2017.
- Significant improvement in the market value for relevant gene editing and gene therapy companies. The most relevant publicly traded gene editing companies include CRISPR Therapeutics, AG, Editas Medicines, Inc. and Intellia Therapeutics, Inc. and their market capitalization appreciated 240%, 72% and 57%, respectively, from December 7, 2017 through March 12, 2018. A broader group of twelve comparable gene editing and gene therapy companies experienced a median increase in market capitalization of 49% over this time period.

In conclusion, the Company respectfully submits that the difference between the latest valuation as of December 7, 2017 and the Preliminary Assumed IPO price is reasonable. As requested by the Staff, the Company will continue to update its disclosure for all equity related transactions through the effective date of the Registration Statement.

Comment 1 (March 6, 2018): Please revise to separately quantify your potential development, regulatory and commercial milestone payments under the Novartis agreement.

The Company respectfully acknowledges the Staff's comment and advises the Staff that it will revise the disclosure on pages 117 and F-28 of the Registration Statement to separately quantify the Company's potential development, regulatory and commercial milestone payments under the Novartis agreement.

We have included the revised disclosure, marked to show changes, that we intend to include on pages 117 and F-28 below:

"In accordance with the Collaboration Agreement, the Company is also eligible to receive up to a total of $960.0 million in **milestone payments, including up to $335 million in** development~~,~~ **milestone payments, up to $275 million in** regulatory ~~and~~**milestone payments and up to $350 million in** commercial milestone payments with respect to the licensed products. The Company is also eligible to earn tiered royalties on net sales of licensed products by Novartis, its affiliates or sublicensees, ranging from mid single-digit, to sub-teen double-digit percentages, which royalties are potentially subject to various reductions and offsets."

The Company respectfully requests that certain of the information contained in this request letter be treated as confidential information and that the Commission provide timely notice to Arthur O. Tzianabos, Ph.D., President and Chief Executive Officer, Homology Medicines, Inc., 45 Wiggins Avenue, Bedford, Massachusetts 01730, telephone (781) 301-7277, before it permits any disclosure of the underlined and highlighted information contained in this letter.

We hope that the foregoing has been responsive to the Staff's comments and look forward to resolving any outstanding issues as quickly as possible. Please do not hesitate to contact me at 212-906-1366 or Peter Handrinos at 617-948-6060 with any questions or further comments you may have regarding this filing or if you wish to discuss the above.

Sincerely,

/s/ Wesley C. Holmes
Wesley C. Holmes
of LATHAM & WATKINS LLP

Enclosures

cc: (via e-mail)

Arthur O. Tzianabos, Ph.D., President and Chief Executive Officer, Homology Medicines, Inc.
Peter N. Handrinos, Latham & Watkins LLP

CONFIDENTIAL TREATMENT HAS BEEN REQUESTED BY HOMOLOGY MEDICINES, INC.