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August 21, 2017

VIA EDGAR AND OVERNIGHT DELIVERY

U.S. Securities and Exchange Commission
Division of Corporate Finance
Office of Healthcare and Insurance
100 F Street, N.E.
Washington, D.C. 20549

Attention: Christine Westbrook / Erin Jaskot – Legal
Christine Torney / Sharon Blume – Accounting

Re: Krystal Biotech, Inc.
Draft Registration Statement on Form S-1 Submitted July 17, 2017
CIK No. 0001711279

Ladies and Gentlemen:

On behalf of our client, Krystal Biotech, Inc. (the "Company"), and pursuant to the applicable provisions of the Securities Act of 1933, as amended (the "Securities Act") and the rules and regulations promulgated thereunder, we are submitting this letter in response to comments received from the staff (the "Staff") of the Securities and Exchange Commission (the "Commission") by letter dated August 11, 2017. The Company is also publicly filing with the Commission, via EDGAR, the above-referenced draft Registration Statement previously confidentially submitted to the Commission on July 17, 2017, which has been updated to reflect revisions made in response to the August 11, 2017 comment letter from the Staff to Krish S. Krishnan of the Company, as well as certain other updated information (the "Public Filing"). The Company confirms that as of the date of this letter, it continues to be an "emerging growth company" as defined in Section 2(a)(19) of the Securities Act. For reference purposes, the comments contained in the Staff's letter dated August 11, 2017 are reproduced below in bold type and the corresponding responses are shown below the comments. All references to page numbers in the Company's responses are to the page numbers in the Public Filing.

Prospectus Summary
Overview, page 1

1. **Please clarify the meaning of any significant scientific or technical terms the first time they are used in order to ensure that lay readers will understand the disclosure. For example, please briefly explain what you mean by "ichthyosis," "icthyosis vulgaris," "non-integrating nature," and "skin tropism resulting in high transduction efficiencies." Please also explain how existing regulatory precedent and stability are considered strengths of your gene therapy platform.**

   Response to Comment 1:

   In response to the Staff's comments concerning the descriptions of "ichthyosis," "ichthyosis vulgaris," "non-integrating nature," and "skin tropism," the Company has revised the disclosure on pages 1, 2, 68, 71, 72 and 83 of the Public Filing. In addition, the Company has clarified in its disclosure on pages 2, 3, 72 and 73 of its Public Filing how existing regulatory precedent supports the use of an HSV-1 backbone in chronic gene therapy similar to the Company's gene therapy platform, and the advantages that the viral stability of HSV-1 provides in terms of manufacturing, storage, transportation and administration.

2. **We note your reference to key opinion leaders, including specific references to Dr. Peter Marinkovich and Dr. Andrew South. Please revise your disclosure to explain how often, and the manner in which, the KOLs are involved in your business. Please also clarify whether you compensate the KOLs.**

   Response to Comment 2:

   In response to the Staff's comment, the Company has revised the disclosure on pages 2, 69 and 103 of the Public Filing to describe the nature of the KOLs' involvement with the Company and have clarified the Company's compensation arrangements with such KOLs. In addition, the Company has updated its discussion with respect to KOL's on pages 2, 69 and 103 of the Public Filing to reflect an additional KOL, Dr. John McGrath of King's College London, with whom the Company entered into a consulting agreement in July 2017 and whom assists the Company with the preclinical and clinical development of KB103 on an hourly basis.

Risks Associated with our Business, page 3

3. **We note your disclosure that KB 103 is based on novel technology. Please place your disclosure in appropriate context by disclosing that the U.S. Food and Drug Administration has not approved any human gene therapy product for marketing to date.**

   Response to Comment 3:

   In response to the Staff's comment, the Company has revised the disclosure on pages 3, 4 and 68 of the Public Filing.

Implications of Being an Emerging Growth Company, page 4

4. **Please supplementally provide us with copies of all written communications, as defined in Rule 405 under the Securities Act, that you, or anyone authorized to do so on your behalf, present to potential investors in reliance on Section 5(d) of the Securities Act, whether or not they retain copies of the communications.**

Response to Comment 4:

In connection with this undertaking, the Company has provided as enclosures to a letter dated August 15, 2017 to the Staff (the "August 15 TTW Letter"), with copies of written communications, as defined in Rule 405 under the Securities Act, that have been presented to potential investors in reliance on Section 5(d) of the Securities Act, by the Company or anyone authorized to do so on its behalf. The August 15 TTW Letter included two presentations that were prepared by the Company for use in meetings with potential investors on July 25, 2017, July 26, 2017, August 7, 2017, August 9, 2017, August 10, 2017 and August 16, 2017, in reliance on Section 5(d) of the Securities Act. Such presentations were only made available for viewing by such investors during the Company's presentations and no investors retained such information.

The Company advises the Staff that, since the August 15 TTW Letter and as of the date hereof, no other written communications, as defined in Rule 405 under the Securities Act, have been used in meetings with potential investors in reliance on Section 5(d) of the Securities Act.

Management's Discussion and Analysis of Financial Condition and Operations Critical Accounting Policies and Significant Judgments and Estimates Stock Based Compensation, page 55

5. **Once you have an estimated offering price or range, please explain to us how you determined the fair value of the common stock underlying your equity issuances and the reasons for any 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.**

Response to Comment 5:

The Company respectfully acknowledges the Staff's comment and confirms that it will provide an analysis explaining the reasons for the differences between recent valuations of its common stock leading up to the Company's initial public offering and the estimated offering price once the Company has an estimated offering price range.

Business
Our Lead Product Candidate: KB-103 for the treatment of DEB, page 77

6. **Please revise your disclosure under "Preclinical Proof of Concept for KB103" to indicate the dates on which you conducted the preclinical tests. Please also tell us whether the examples shown represent results that were achieved consistently in the preclinical tests. In the figures shown on page 76, please tell us how you measured the amount of COL7 expression and what you determined to be "high levels" of expression.**

Response to Comment 6:

In response to the Staff's comment, the Company has revised the disclosure on page 76 of the Public Filing to indicate the dates on which the preclinical tests and animal studies for KB103 were conducted and to reflect that the results of such tests and studies were evaluated for consistency and reproducibility. In addition, in response to the Staff's comment, the Company has revised the disclosure on pages 76 and 77 (including Figure 4 therein) of the Public Filing to describe the Company's method of measurement of the amount of COL7 expression and its determination as to the "high levels" of expression.

7. **Please revise the charts on page 77 so that it is clear what information is presented and the significance of the different bars shown, including whether images are depicted or measured quantities. Please also revise the charts on pages 78 to 79 so that it is clear what information is represented by the lines extending from the bars shown, as they do not appear to align consistently with units shown.**

Response to Comment 7:

In response to the Staff's comment, the Company has revised the charts in Figure 8 and Figure 9 and their respective accompanying descriptions on page 79 of the Public Filing to clarify the information being presented, including that the images depicted are actual levels of LH3. The Company has also revised the charts in Figures 10, 11, 12 and 13 on pages 80, 81 and 82 of the Public Filing to remove the extraneous lines that previously extended from the bars shown.

8. **Please explain the significance of KB 103 infecting both keratinocytes and fibroblasts.**

Response to Comment 8:

In response to the Staff's comment, the Company has revised the disclosure on pages 80 and 81 of the Public Filing to clarify the significance of KB103's ability to transduce both keratinocytes and fibroblasts (which are cells that both produce COL7 in non-DEB afflicted skin) and thereby offer the potential to achieve therapeutic levels of COL7 following direct application to the skin, in contrast to most ex-vivo approaches which are only able to target either fibroblasts or keratinocytes due to limitations of their viral vector. This supplements the disclosure on page 74 and 75 of the Public Filing, which describes the ability of KB103 to transduce both keratinocytes and fibroblasts to produce optimum therapeutic levels of secreted COL7 protein, which has been shown in clinical and non-clinical studies as necessary and sufficient to treat DEB in patients.

General

9. **Please provide us proofs of all graphics, visual, or photographic information you will provide in the printed prospectus prior to its use, for example in a preliminary prospectus. Please note that we may have comments regarding this material.**

Response to Comment 9:

The Company acknowledges the Staff's comment and respectfully advises the Staff that it does not currently intend to include any additional graphic, visual or photographic information in the printed prospectus. If, following the date of this letter, the Company determines to include additional graphic, visual or photographic information in the printed prospectus, it will provide proofs to the Staff prior to their use.

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We hope that the foregoing has been response to the Staff's comments and will provide you with marked copies of Amendment No. 1 to expedite your review. If you have any questions about this letter or require any further information, please call John W. Campbell at (415) 268-7197.

Very truly yours,

/s/ John W. Campbell

John W. Campbell

cc: Krish S. Krishnan, Krystal Biotech, Inc.
Christine Westbrook, Securities and Exchange Commission
Erin Jaskot, Securities and Exchange Commission
Christine Torney, Securities and Exchange Commission
Sharon Blume, Securities and Exchange Commission