UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 8-K

CURRENT REPORT
Pursuant to Section 13 or 15(d)
of the Securities Exchange Act of 1934
Date of Report (Date of earliest event reported): May 7, 2024

KRYSTAL BIOTECH, INC.

(Exact name of registrant as specified in its charter)

Delaware	**001-38210**	**82-1080209**
(State or other jurisdiction of incorporation)	**(Commission File Number)**	**(IRS Employer Identification Number)**

2100 Wharton Street, Suite 701
Pittsburgh, Pennsylvania 15203
(Address of principal executive offices, including Zip Code)
Registrant's telephone number, including area code: (412) 586-5830

Check the appropriate box below if the Form 8-K filing is intended to simultaneously satisfy the filing obligation of the registrant under any of the following provisions:

☐ Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)

☐ Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)

☐ Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))

☐ Pre-commencement communications pursuant to Rule 13e-4(c) under the Exchange Act (17 CFR 240.13e-4(c))

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	**Trading Symbol(s)**	**Name of each exchange on which registered**
Common Stock	**KRYS**	**Nasdaq Global Select Market**

Indicate by check mark whether the registrant is an emerging growth company as defined in Rule 405 of the Securities Act of 1933 (§230.405 of this chapter) or Rule 12b-2 of the Securities Exchange Act of 1934 (§240.12b-2 of this chapter).

Emerging growth company ☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Item 7.01 Regulation FD Disclosure.

On May 7, 2024, Krystal Biotech, Inc. (the "Company") presented a poster entitled "An HSV-1-Based Vector Platform for Localized Delivery to the Posterior of the Eye", at the Association for Research in Vision and Ophthalmology ("ARVO") 2024 Annual Meeting in Seattle, WA. A copy of the poster presented at the ARVO meeting is attached hereto as Exhibit 99.1 and is incorporated herein by reference. The poster is also available on the "Investors" section of the Company's website at www.krystalbio.com.

The information in Item 7.01 of this Current Report on Form 8-K and in Exhibit 99.1 attached hereto shall not be deemed to be "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended, or otherwise subject to the liabilities of that section. The information in this Item 7.01 of this Current Report on Form 8-K and in Exhibit 99.1 attached hereto shall not be incorporated into any registration statement or other document filed with the Securities and Exchange Commission by the Company, whether made before or after the date hereof, regardless of any general incorporation language in such filing, except as shall be expressly set forth by specific reference in such filing.

Item 9.01 Financial Statements and Exhibits.

(d) Exhibits.

Exhibit No.	Description
99.1	Poster entitled "An HSV-1-Based Vector Platform for Localized Delivery to the Posterior of the Eye".
104	Cover Page Interactive Data file (embedded within the Inline XBRL document)

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, as amended, the registrant has duly caused this report to be signed on its behalf by the undersigned hereunto duly authorized.

Date: May 7, 2024

KRYSTAL BIOTECH, INC.

By: /s/ Krish S. Krishnan
Name: Krish S. Krishnan
Title: Chairman and Chief Executive Officer

ARVO 2024
Annual Meeting
PRESENTATION
#3978

An HSV-1-Based Vector Platform for Localized Delivery to the Posterior of the Eye

Haley N. Cartwright, Ph.D.[1]; Jorge Guzman-Lepe, M.D.[1]; Trevor J. Parry, Ph.D.[1]; Suma M. Krishnan, M.S.[1]
[1]Krystal Biotech, Inc., Pittsburgh, Pennsylvania

Purpose

- Clinical use of a herpes simplex virus type 1 (HSV-1)-based gene therapy vector, beremagene geperpavec (B-VEC), has been successful in treating skin- and eye-related pathologies associated with dystrophic epidermolysis bullosa (DEB) [1-3].
- The underlying platform technology is now being explored for its potential in treating additional genetic ocular disorders, necessitating determination of feasible routes for safe transgene delivery, particularly to the posterior of the eye.

Methods: Routes of Administration to the Posterior of the Eye

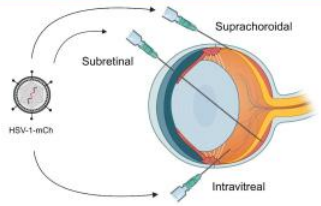

Figure 1. A single dose (1 µL) of an HSV-1-based fluorescent reporter vector was administered via subretinal, suprachoroidal, or intravitreal injection to mouse eyes. Eyes were collected after 24 hours for staining and qPCR. HSV-1-mCh = vector encoding mCherry fluorescent reporter gene. Created with BioRender.com.

Suprachoroidal and Subretinal, but Not Intravitreal, Injections Result in mCherry Expression Across the Retina

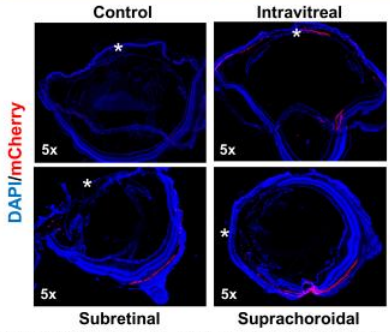

Figure 2. Suprachoroidal and subretinal injections resulted in disseminated mCherry expression across the retina, while intravitreal injection revealed mCherry signal in the cornea, iris, and ciliary body, as visualized through immunofluorescence (IF) staining. * = cornea

Vector Platform Successfully Transduces Both Photoreceptors and Retinal Pigment Epithelial Cells (RPECs) , as Visualized Through Co-IF

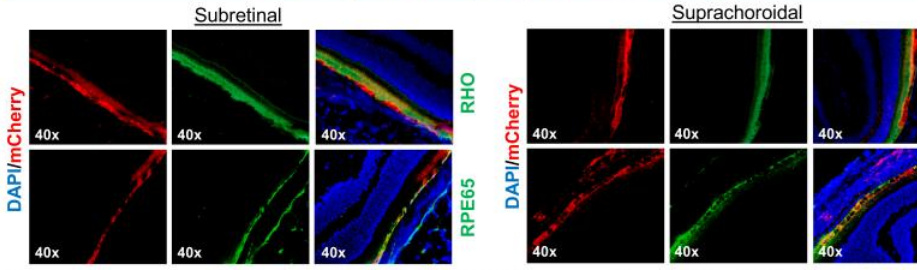

Figure 3. Vector cell-type affinity in the retina after subretinal and suprachoroidal injection was assessed by co-localization of viral mCherry expression with (RHO; photoreceptor marker) or RPE65 (RPEC marker) fluorescent staining. DAPI was used to visualize nuclei.

Ocular Injection Results in Minimal Inflammation in the Eye

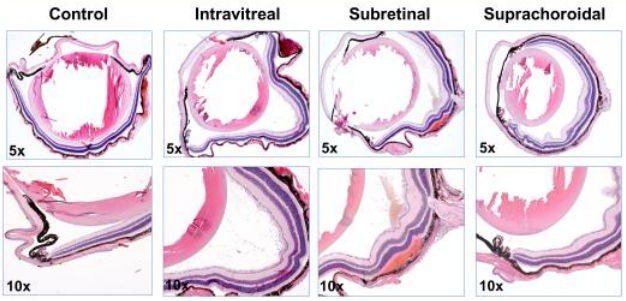

Figure 4. Very few inflammatory cells were observed in the suprachoroidal and subretinal groups, while the intravitreal group showed mild inflammatory cell infiltration by hematoxylin and eosin (H&E) staining. The upper panels are imaged at 5x, and the lower panels are imaged at 10x.

Ocular Injection Reveals Low V Dissemination into Circulati

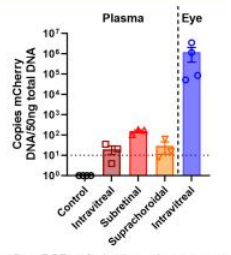

Figure 5. qPCR of murine plasma reve detectable levels of vector genomes after injection; dissemination was at the limit of after intravitreal or suprachoroidal treatme genome copies in eye tissue after intravitrea in rodents (blue) is provided for cc demonstrating ~4-5 log-fold higher concentra those observed in the plasma.

Conclusions

This HSV-1-based platform technology can transduce multiple clinically-relevant cell types in the eye, including both photoreceptors and RPECs in the retina, with little-to-no inflammation. These data support further development of this technology for ocular disorders, particularly inherited retinal diseases.

Acknowledgements/Disclosures/Reference

These studies were funded by Krystal Biotech, Inc. Krystal Biotech, Inc. to thank EyeCRO, Inc. for their contributions to the work presented here. studies were performed in an AAALAC accredited facility, and proto IACUC approved prior to initiation. All authors are current employees Biotech, Inc. [1]Guide, *NEJM* 2022; [2]Sabater, ARVO 2023; [3]Vetencourt, *NE*