



## Genetic Medicines for High Unmet Medical Needs

August 2024



# Forward Looking Statements and Disclosures

## Forward Looking Statements

This presentation contains forward-looking statements that involve substantial risks and uncertainties. Any statements in this presentation about future expectations, plans and prospects for Krystal Biotech, Inc. (together with or its subsidiaries and affiliates, the “Company”), including, but not limited to, statements about commercialization of VYJUVEK® in the United States; efforts and timelines to bring VYJUVEK to market in Europe, Japan and elsewhere; estimated numbers of DEB patients and the market opportunity for VYJUVEK; the B-VEC label expansion opportunity to address DEB ocular complications; the Company’s in-house manufacturing capacity and expertise; the Company’s technology platform, including its expected advantages; the development and commercialization of the Company’s product candidates and pipeline expansion opportunities, including the conduct and timelines of preclinical and clinical trials and data readouts; the preclinical and clinical utility of the Company’s product candidates; plans for and timing of regulatory filings; the market opportunities for and the potential market acceptance of the Company’s product candidates; and other statements containing the words “anticipate”, “believe”, “estimate”, “expect”, “intend”, “may”, “plan”, “predict”, “project”, “target”, “potential”, “likely”, “will”, “would”, “could”, “should”, “continue” and similar expressions, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors, including: the content and timing of decisions made by the U.S. Food and Drug Administration, European Medicines Agency and other regulatory authorities; the uncertainties inherent in the initiation and conduct of clinical trials; availability and timing of data from clinical trials; whether results of early clinical trials or studies in different disease indications will be indicative of the results of ongoing or future trials; manufacturing uncertainties or disruptions and the availability of VYJUVEK or product candidates; the ability to retain and hire key personnel; the sufficiency of cash resources and need for additional financing; and such other important factors as are set forth in the Company’s annual and quarterly reports and other filings on file with the U.S. Securities and Exchange Commission. In addition, the forward-looking statements included in this presentation represent the Company’s views as of the date of this presentation. The Company anticipates that subsequent events and developments will cause its views to change. However, while the Company may elect to update these forward-looking statements at some point in the future, it specifically disclaims any obligation to do so. These forward-looking statements should not be relied upon as representing the Company’s views as of any date subsequent to the date of this presentation.

This presentation also contains estimates and other statistical data made by independent parties and by us relating to market size and growth and other data about our industry. This data involves a number of assumptions and limitations, and you are cautioned not to give undue weight to such estimates. Neither we nor any other person makes any representation as to the accuracy or completeness of such data or undertakes any obligation to update such data after the date of this presentation. In addition, projections, assumptions and estimates of our future performance and the future performance of the markets in which we operate are necessarily subject to a high degree of uncertainty and risk.

## Disclosures

The Company is using the Aerogen Solo® Nebulizer System and Aerogen® Ultra in its studies of inhaled product candidates.

# Dystrophic Epidermolysis Bullosa

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# Dystrophic Epidermolysis Bullosa

An ultra-rare genetic disease characterized by fragile skin, recurring and chronic wounds and serious complications



**~9,000**

**DEB Patients  
Globally<sup>11</sup>**

## Monogenic Disease Caused by Mutations in *COL7A1* Gene

Mutations lead to absent or dysfunctional COL7 protein, without which the epidermis does not anchor to the dermis<sup>1-3</sup>

## Heavy, Lifelong Burden on Patients and Caregivers

Recurring and chronic wounds are hallmarks of DEB causing significant pain, scarring, deformity, loss of function, limited mobility, and other complications with the oral cavity, eye, and gastrointestinal tract<sup>1,4,5</sup>

## Costly and Time-Consuming Wound Care

Chronic wound management, bandages, pain and infection control, as well as surgical interventions lead to estimated **annual care costs of \$200K-\$400K**<sup>6,7</sup>

## Increased Risk for Serious Complications and Cancers

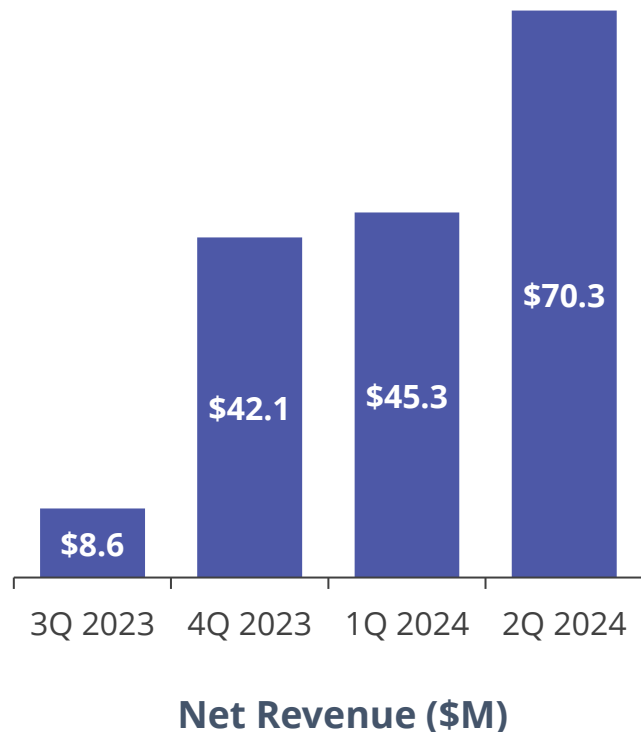
DEB patients are at significantly higher risk of developing aggressive forms of squamous cell carcinoma<sup>8-10</sup>

**Until VYJUVEK, Only Supportive Care for DEB Patients Available in the U.S.**

1. Fine J-D, et al. *J Am Acad Dermatol*. 2014;70(6):1103-1126; 2. Fine J-D. *JAMA Dermatol*. 2016;152(11):1231-1238; 3. Bardhan A, et al. *Nat Rev Dis Primers*. 2020 Sep 24;6(1):78; 4. Has C, et al. *Br J Dermatol*. 2020;183(4):614-627; 5. Bardhan A, et al. *Nat Rev Dis Primers*. 2020;6(1):78; 6. Rashidghamat E., Mellerio J.E., Management of chronic wounds in patients with dystrophic epidermolysis bullosa: challenges and solutions, Chronic Wound Care Management and Research Volume 2017:4, 45-54; 7. GENEGRAFT Report Summary. (2015, February 16). Retrieved December 13, 2016, from [http://cordis.europa.eu/result/rcn/156078\\_en.html](http://cordis.europa.eu/result/rcn/156078_en.html); 8. Condorelli A, et al. *Int J Mol Sci*. 2019;20(22):5707; 9. Montaudié H, et al. *Orphanet J Rare Dis*. 2016;11(1):117; 10. Fine J-D, Mellerio JE. *J Am Acad Dermatol*. 2009;61:367-384; 11. Krystal Biotech. Data on file

# VYJUVEK Approved and Launched in U.S.

Strong commercial launch for the first and only corrective therapy for DEB



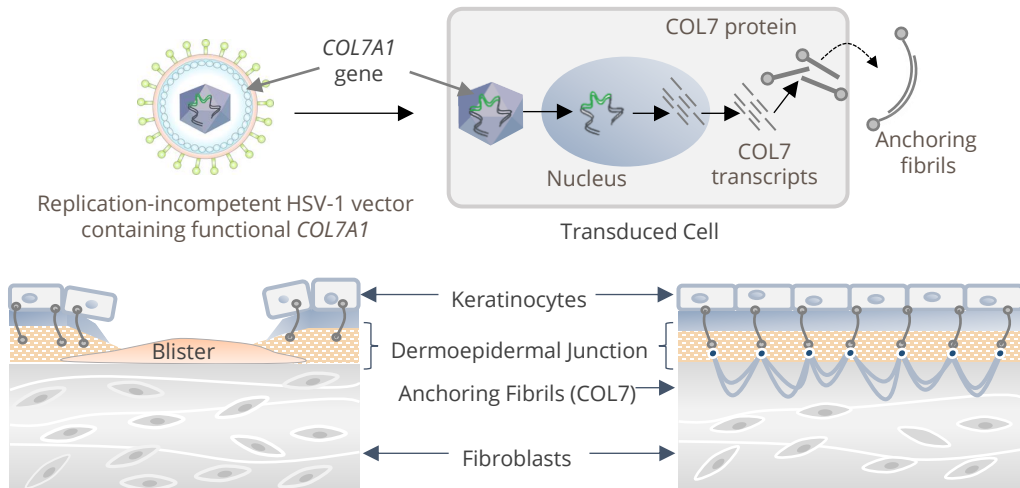
- ✓ **First FDA-approved treatment for DEB, approved on May 19, 2023**
  - Indicated for the treatment of wounds in patients 6 months of age and older with DEB
  - Approved for recessive and dominant DEB with no restrictions on use by wound type
- ✓ **Successfully securing broad access and reimbursement**
  - Over 400 reimbursement approvals as of July 2024
  - Positive coverage for 97% of commercial and Medicaid covered lives
  - Reimbursement approvals across all ages and for both dominant and recessive DEB
- ✓ **Expanding the prescriber base and starting to grow the patient pool**
  - Continued growth in both unique and repeat prescribers, particularly in the community
  - New prescriptions from previously unknown DEB patients organically expanding pool
- ✓ **Site of care flexibility enabling high compliance**
  - Approved for HCP administration irrespective of care setting, including home or clinic
  - 96% patients opting for treatment at home
  - Patient compliance at 90% through end of 2Q 2024

# VYJUVEK is the First Corrective Therapy for DEB

Topically applied, VYJUVEK, is a gel designed to induce local COL7 expression and replace defective or missing gene

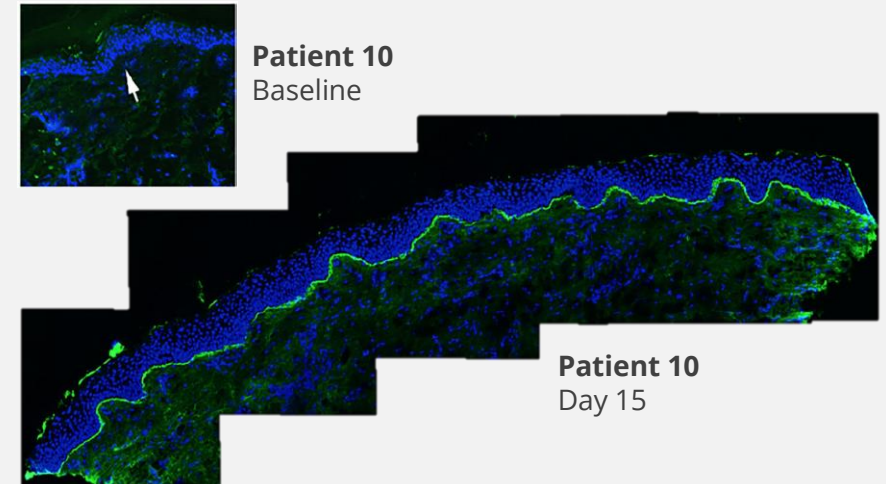
## VYJUVEK Mechanism of Action

- When applied topically to the wound, VYJUVEK transduces local keratinocytes and fibroblasts and delivers COL7A1 to the nucleus<sup>1-3</sup>
- The COL7A1 payload then persists episomally, enabling the transduced cell to produce and secrete functional COL7 protein without host genomic disruption<sup>1-3</sup>
- Secreted COL7 assembles into anchoring fibrils, holding skin together<sup>1-3</sup>



## Clinical Evidence of Molecular Correction in Phase 1/2

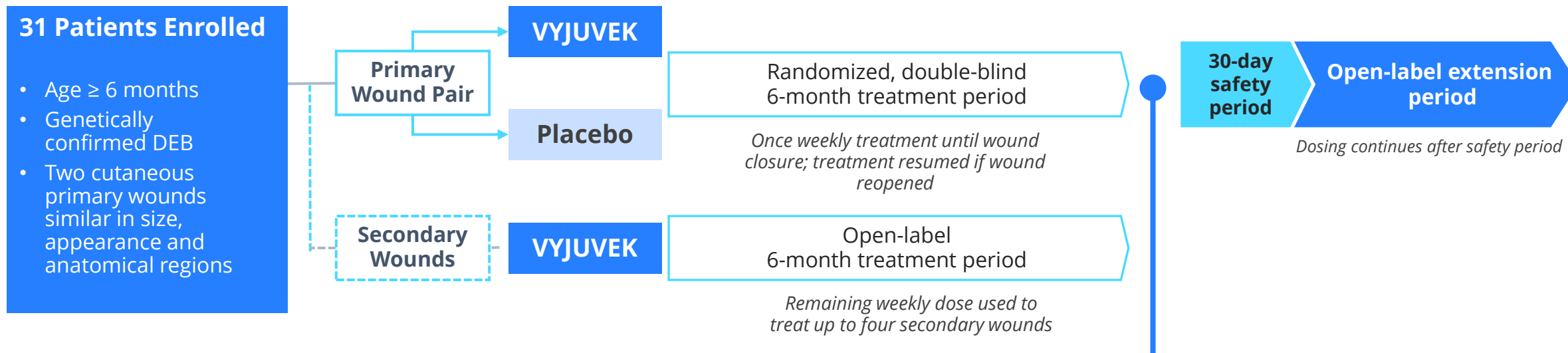
- Representative data from patient in Phase 1/2 study assessing COL7 deposition in the skin by immunofluorescence (in green)<sup>3</sup>
- Strong, properly localized COL7 signal detected in treated skin
- Anchoring fibril formation also detected by electron microscopy



1. Marinkovich MP, et al. Oral presentation at 2022 American Academy of Dermatology (AAD) Annual Meeting; 2. Guide SV, et al. *N Engl J Med.* 2022;387(24):2211-9; 3. Gurevich I et al. *Nat Med* 2022; 28:780-788

COL7, type VII collagen; COL7A1, collagen type VII alpha 1 chain; DEB, dystrophic epidermolysis bullosa

# GEM-3 Pivotal Study Evaluated Weekly Dose of VYJUVEK or Placebo in DEB



## Demographics

- 31 patients, each with one primary wound pair were enrolled and included in the ITT analysis
- Enrolled patients ranged from 1 year old to 44 years old at baseline; 61% of the patients enrolled were pediatric ( $\leq$ 18 years old)

*Study conducted across 3 sites*

## Primary Efficacy Endpoints

- Complete wound healing<sup>†</sup> at Week 22 and Week 24; or at Week 24 and Week 26 (6-months)

## Secondary Efficacy Endpoints

- Complete wound healing<sup>†</sup> at Week 8 and Week 10, or at Week 10 and Week 12 (3-months)
- Mean change in pain severity (VAS or FLACC-R Scale) associated with wound dressing changes

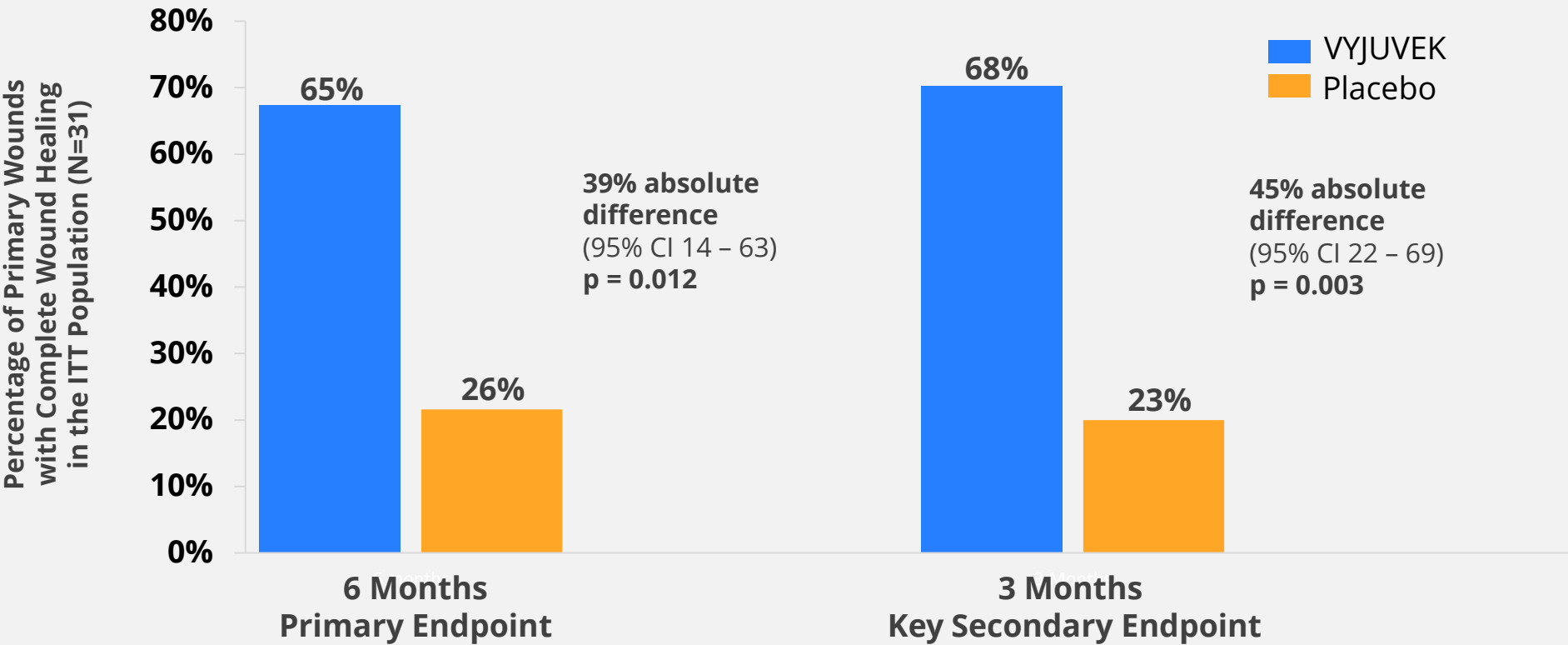
Guide SV, et al. *N Engl J Med.* 2022; 387(24):2211-9

DEB, dystrophic epidermolysis bullosa; FLACC-R Scale, Face, Legs, Activity, Cry and Consolability Revised scale; ITT, intent-to-treat; VAS, Visual Analogue Scale

<sup>†</sup>Complete wound healing defined as 100% wound closure from the exact wound area at baseline, specified as skin re-epithelialization without drainage

# Significantly Higher Proportion of Wounds Closed with VYJUVEK

VYJUVEK impact on closure rates similar at both primary endpoint of 6 months and secondary endpoint of 3 months



Krystal Biotech. Data on file

Data shown on this slide is based on the data handling methodologies requested by FDA during labeling negotiations, with missing data for 1 subject replaced with remote assessments captured during COVID-19 pandemic and worst-case scenario\* applied for other 2 subjects with missing data. In the *New England Journal of Medicine* (Guide SV, et al. *N Engl J Med.* 2022; 387(24):2211-9), missing data for 3 subjects was handled with multiple imputation method as prespecified in Statistical Analysis Plan for Phase 3. \*Worst-case scenario assumes that the placebo-treated wound achieved complete wound closure whereas the VYJUVEK-treated wound did not.

CI, confidence interval; ITT, intent-to-treat



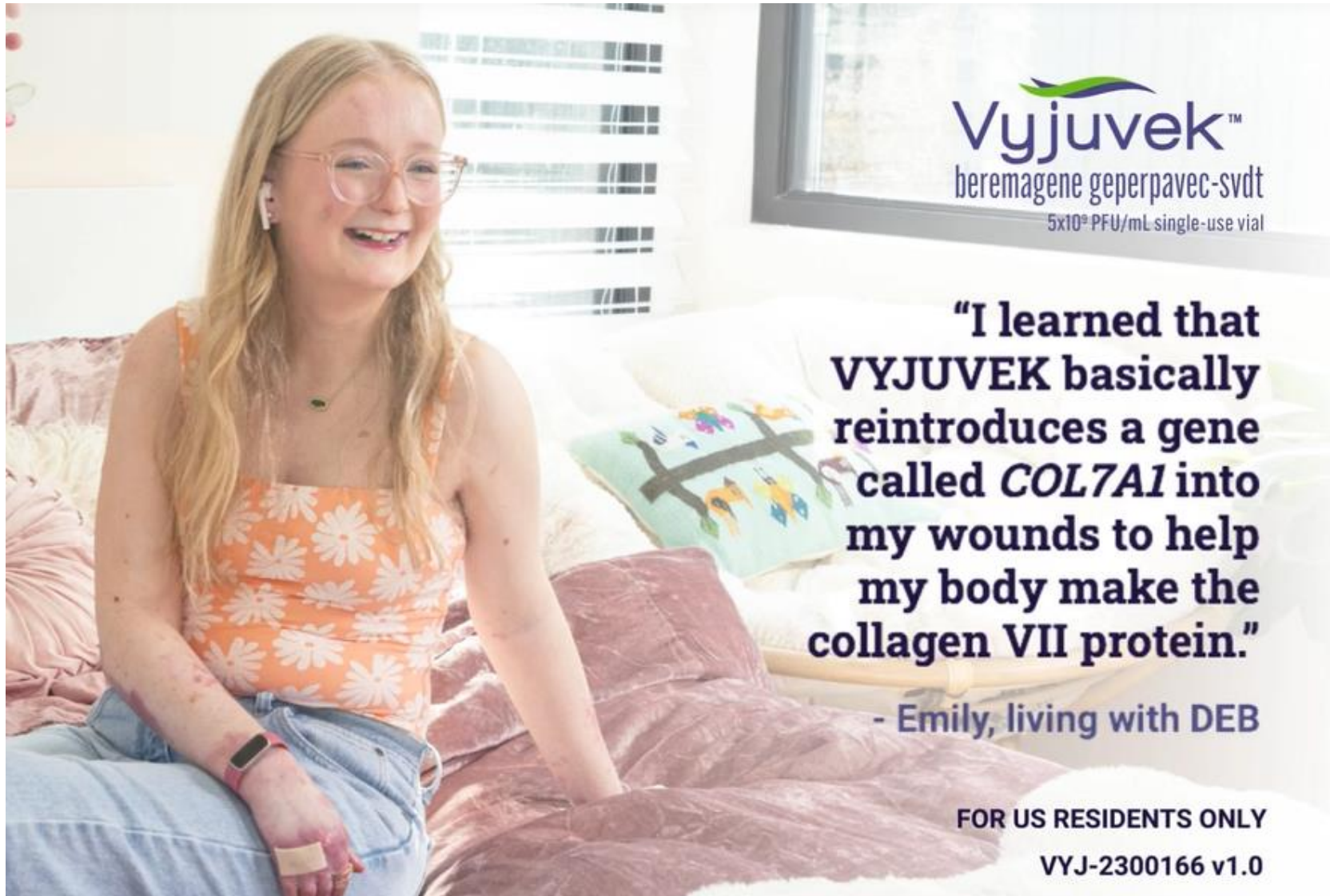
# VYJUVEK Well-Tolerated and Demonstrated Strong Safety Profile

Safety profile consistent across all studies to date

Adverse Events	Total Patients (n=31)
Total number of adverse events (AEs)	45
Patients with $\geq 1$ AE, n (%)	18 (58.1)
Serious AEs	3 (9.7)
Severe AEs	2 (6.5)
Drug-related AEs	1 (3.2)
AE leading to treatment discontinuation	0 (0)
Death	0 (0)

- Majority of AEs were mild or moderate; no AEs led to treatment discontinuation or death
- The most common side effects (>5%) were itching, redness, rash, cough, and runny nose
- One AE, mild erythema, was considered possibly related to study drug as assessed by the investigator
- Three patients experienced a total of five SAEs during the study: cellulitis, anemia (two events), diarrhea, and positive blood culture
  - ✓ None were considered related to study drug
- No clinically significant immunologic reactions were reported during the study
- Treatment response to VYJUVEK was not associated with HSV-1 serostatus at baseline or with COL7 seroconversion

# VYJUVEK is Changing the Treatment Paradigm in DEB



**Vyjuvek™**  
beremagene geperpavec-svdt  
5x10<sup>9</sup> PFU/mL single-use vial

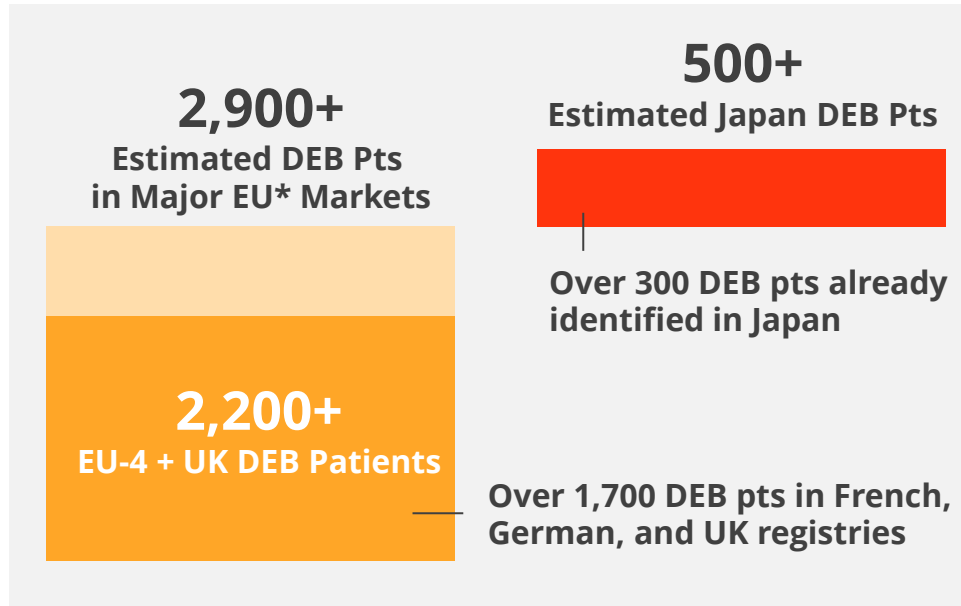
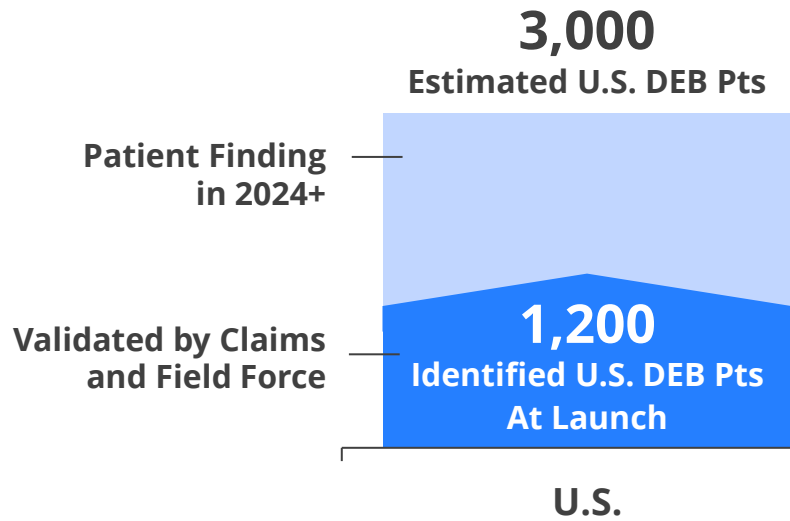
**“I learned that VYJUVEK basically reintroduces a gene called *COL7A1* into my wounds to help my body make the collagen VII protein.”**

**- Emily, living with DEB**

**FOR US RESIDENTS ONLY**  
**VYJ-2300166 v1.0**

# Significant Revenue Growth Opportunities Outside of the United States

**\$1B+ Global VYJUVEK  
Market Opportunity**



Krystal launching in Europe and Japan in 2025

**Thousands**  
Estimated ROW DEB Pts

Entering into distributor agreements for key ROW markets starting in 2024

U.S.

Major EU\*

Japan

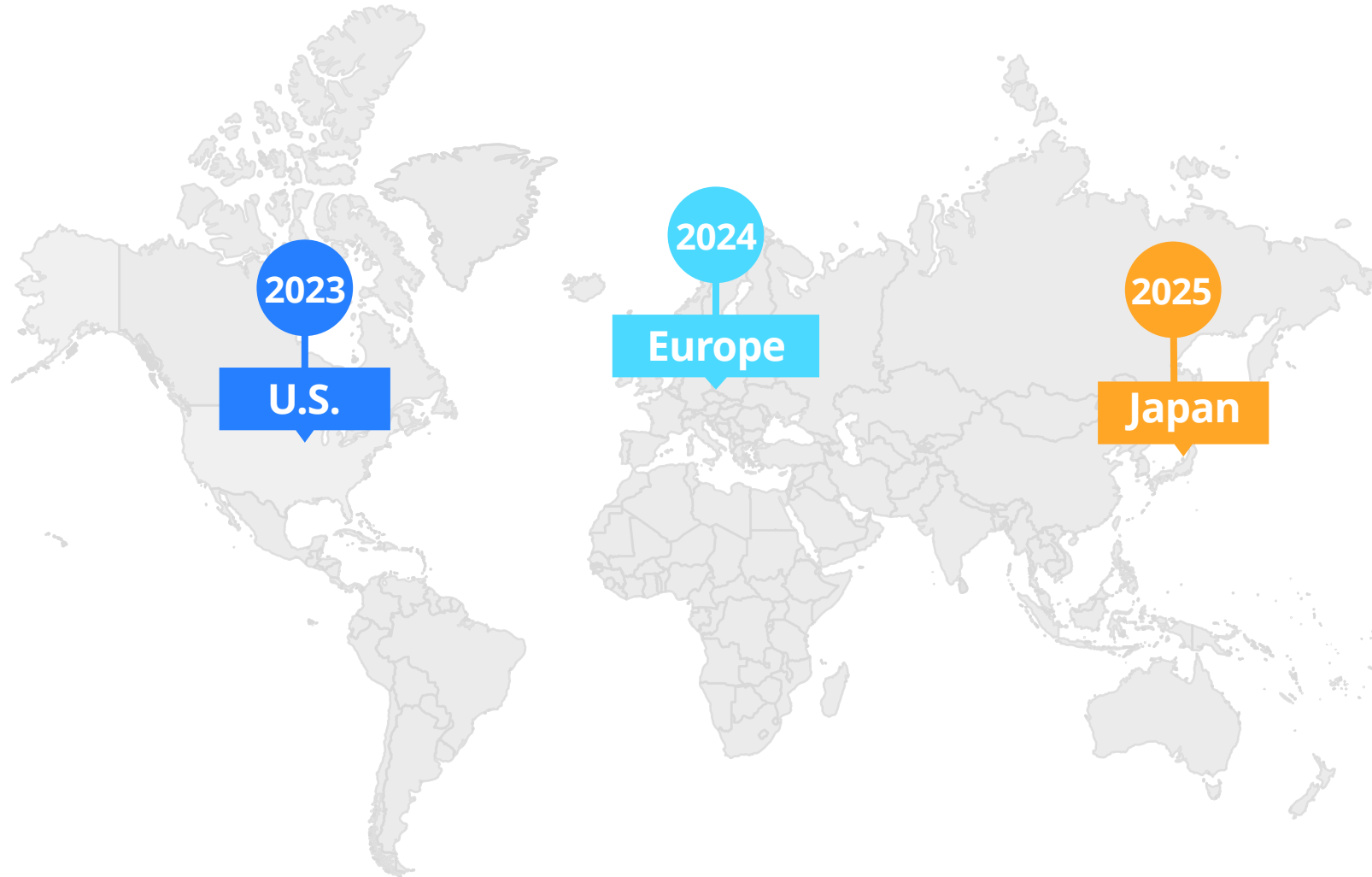
ROW

\* Refers to EU target markets of EU-4 (France, Germany, Spain, Italy), UK, Ireland, Benelux, Switzerland, Austria, Nordics

DEB, dystrophic epidermolysis bullosa; EU, Europe; UK, United Kingdom; ROW, rest of world; U.S., United States

# VYJUVEK Global Regulatory Approval Timelines

Expect regulatory decisions for Europe in 2024 and Japan in 2025



# Label Expansion Opportunity to Address DEB Ocular Complications

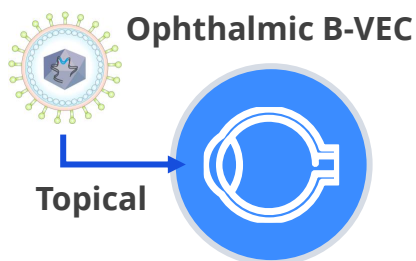
A cause of progressive vision loss with no specific therapy available

## Ocular Complications of Dystrophic Epidermolysis Bullosa (DEB)<sup>1-3</sup>

- A significant proportion of DEB patients suffer from ocular complications related to local COL7 deficiency in the eye
- Corneal abrasion, scarring, and pannus are among the most commonly cited issues, as well as eyelid ectropion, blisters
- Can lead to progressive vision loss and even blindness

## No Specific FDA-Approved Therapy<sup>1-3</sup>

- There is no corrective therapy available to treat ocular complications of DEB
- Standard of care is recurring surgical intervention to separate eyelid from the eye and clear occlusions from cornea; burdensome and no assurance of durable benefit



**Ophthalmic formulation of B-VEC in development to restore local COL7A1 expression and eye function in DEB patients**

**Over 50%**

**Proportion of RDEB patients with ocular complications<sup>1,2</sup>**

**750**

**Estimated Patients in U.S.\***

**2K+**

**Estimated Patients WW\*†**

\* Assuming 50% of DEB patients have RDEB of which at least 50% have ocular complications<sup>1-4</sup>

† Reimbursable markets only

1. Tang JY, et al. *Orphanet J Rare Dis.* 2021;16(1):175; 2. Tong L, et al. *Br J Ophthalmol.* 1999; 83(3):323-326; 3. Chen VM, et al. *Ocul Surf.* 2020; 18(4):912-919; 4. Krystal Biotech. Data on File

B-VEC, beremagene geperpavec; COL7, type VII collagen; COL7A1, collagen type VII alpha 1 chain; DEB, dystrophic epidermolysis bullosa; FDA, U.S. Food and Drug Administration; RDEB, recessive dystrophic epidermolysis bullosa; U.S., United States; WW, worldwide

Other than VYJUVEK, all products described in this presentation are investigational therapies

# Significant Improvement in Eye of DEB Patient Treated with B-VEC

Well-tolerated and associated with full corneal healing and visual acuity improvement to 20/25

## Compassionate Use of Ophthalmic B-VEC in Eye of DEB Patient

- 13-year-old male with DEB and bilateral cicatrizing conjunctivitis
- History of repeated symblepharon lysis surgeries with posterior recurrence, and bilateral limbal stem cell deficiency
- Surgical symblepharon lysis of right eye was performed followed with regular topical applications of B-VEC ( $5 \times 10^9$  PFU/mL)
- Regular applications eventually declining to weekly frequency were performed until corneal epithelium was healed, followed by monthly topical applications

**Baseline**



**6 Months**



**Treated Eye**

**Visual Acuity in Treated Eye**

Time		Visual Acuity
Baseline / Prior to Surgery		HM
After Surgery	1 Week	20/400
	1 Month	20/200
	2 Months	20/150
	3 Months	20/100
	4 Months	20/80-2
	5 Months	20/80-1
	6 Months	20/70
	7 Months	20/40
8 Months	20/25	

**Ophthalmic B-VEC well-tolerated and associated with corneal healing, epithelization, and continuing visual acuity improvement**

**Registrational study to evaluate B-VEC eyedrops scheduled to start in 4Q 2024 and natural history study with potential for run-in to registrational started in August**

Sabater A et al., Poster # 787 - C0388. at the 2023 Association for Research in Vision and Ophthalmology Annual Meeting; Vetencourt AT, et al. *N Engl J Med.* 2024;390:530-535

B-VEC, beremagene geperpavec; DEB, dystrophic epidermolysis bullosa; HM, hand motion; PFU, plaque-forming unit

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# Technology Platform



# HSV-1: A Differentiated Vector Platform

Unique properties of HSV-1 overcome capacity, immunogenicity, and potential safety issues of other commonly used vectors



## Krystal's Engineered Replication Deficient HSV-1 Platform

### Large genetic payload capacity well in excess of other viral vectors

HSV-1 has a large genome, theoretical cargo capacity > 30 kb significantly exceeds capacity of AAV (< 5 kb) and lentiviruses (~9 kb); VYJUVEK contains over 19 kb genetic cargo

### Efficient transduction of wide range of cell types

HSV-1 employs multiple mechanisms to gain cell entry and majority of cell types are permissive; Krystal vectors shown to transduce keratinocytes, fibroblasts, and various cells of the eye and lung so far

### Evades host immunity allowing for repeat dosing and reducing immunotoxicity

The ability of HSV-1 to block innate and adaptive immune responses is retained in Krystal vectors; no evidence of significant or persistent neutralizing immunity in clinical studies to date

### DNA payload enables durable expression without integration risk

HSV-1 delivers genome to nucleus where it persists episomally; no reports of integration with wild-type virus or Krystal constructs








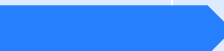
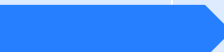





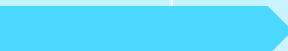

### Scalable manufacturing of viral gene therapies

Capable of increasing manufacturing in a streamlined manner because of in-house capabilities



# Pipeline

Robust pipeline with at least five active clinical programs in 2024

		Indication	Payload	Preclinical	Phase 1/2	Phase 3	Commercial
 Vyjuvek® beremagene geperpavec-svdt 5x10 <sup>8</sup> PFU/mL single-use vial		Dystrophic epidermolysis bullosa	COL7A1	 <b>FDA Approved May 2023</b>			Marketed in the U.S.
 Dermatology	KB105	Lamellar ichthyosis	TGM1				
	KB104	Netherton syndrome	SPINK5				
	Additional program(s) targeting dermatology indications						
 Respiratory	KB407	Cystic fibrosis	CFTR				
	KB408	Alpha-1 antitrypsin deficiency (AATD)	SERPINA1				
	Additional program(s) targeting respiratory indications						
 Oncology	Injectable KB707	Solid tumors including cutaneous	IL2 + IL12				
	Inhaled KB707	Solid tumors of the lung	IL2 + IL12				
 Ophthalmology	Ophthalmic B-VEC	Ocular complications of DEB	COL7A1				
	Program(s) targeting ophthalmology indications						

B-VEC, beremagene geperpavec; CFTR, cystic fibrosis transmembrane conductance regulator; COL7A1, collagen type VII alpha 1 chain; DEB, dystrophic epidermolysis bullosa; FDA, US Food and Drug Administration; IL-12, interleukin-12; IL-2, interleukin-2; SERPINA1, serpin family A member 1; SPINK5, serine protease inhibitor Kazal-type 5; TGM1, transglutaminase-1; U.S., United States

Other than VYJUVEK, all products described in this presentation are investigational therapies

# In-House Manufacturing Capacity and Expertise

Two U.S. GMP facilities with capacity to support global VYJUVEK product needs and future growth

## ANCORIS Facility



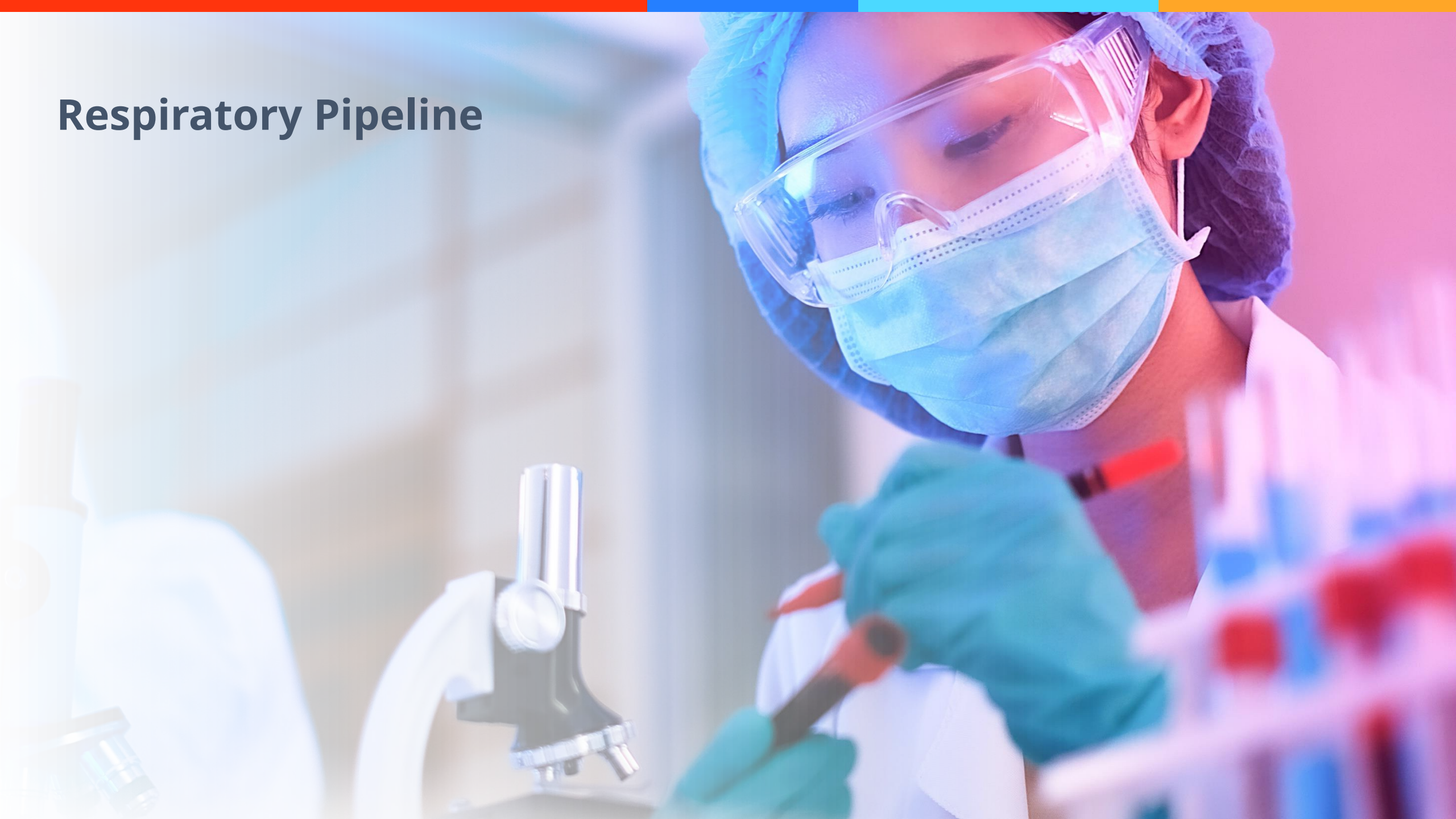
- ~21,100 sq. ft. GMP facility
- Capabilities: Virus Banks, Cell Banks, Pilot Scale Process Development, Drug Substance, Drug Product GMP Storage, Clinical and Commercial Packaging, Analytical Development, Analytical Testing, Waste Handling, Environmental Monitoring, and Logistics
- Fully equipped AD/QC labs
- Validated methods for titering/release
- Built to support global VYJUVEK launch

## ASTRA Facility



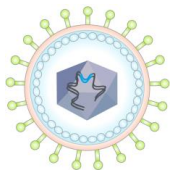
- ~155,000 sq. ft. GMP facility
- Capabilities: Virus Banks, Cell Banks, Drug Substance, Drug Product, Packaging, Storage, General Office Space, GMP Storage, Bulk Packaging, Waste Handling, Environmental Monitoring, and Logistics
- Able to scale up and scale out

# Respiratory Pipeline



# Krystal Respiratory Pipeline

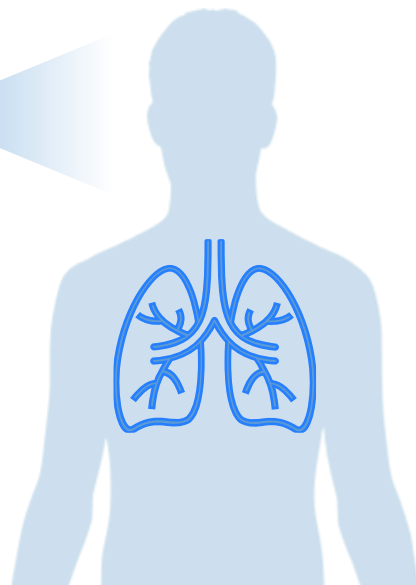
Developing redosable, inhaled gene therapies to address monogenic disorders of the lung



**KB407**  
**KB408**



**Nebulizer**



## Historical Challenges with Inhaled Gene Therapy<sup>1</sup>

- Inhaled gene therapy has been explored for decades, with little success
- Focus to date has been on adenovirus, AAV, and non-viral approaches
- Multiple challenges including cargo limitations, low efficiency of gene transfer, toxicity, product instability, and burdensome delivery

## HSV-1 Platform Addresses Historical Challenges

- Clinically validated vector; tolerated and redosable in Phase 3 for DEB
- Large cargo capacity to load in full genes, including *CFTR* for cystic fibrosis
- Ability to redose and/or adjust dose over time as lung cells turnover
- Broad cellular tropism and efficient transduction of airway epithelium
- Expected nebulization time is under 30-minutes using off-the-shelf nebulizer
- **Robust preclinical data package:** Krystal's inhaled candidates are well-tolerated and distribute broadly in lung to drive local payload expression

1. Vu A, et al. *Human Gene Therapy* 2020;31(17-18):921-939

AAV, adeno-associated virus; CFTR, cystic fibrosis transmembrane conductance regulator; DEB, dystrophic epidermolysis bullosa

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# Cystic Fibrosis Disease Overview

A life-span shortening progressive disease of the lung

## CF Prevalence & Incidence<sup>1,2</sup>



105,000

CF Patients in  
94 Countries



32,000+

CF Patients in  
U.S. Registry



+1,000

New Cases  
Annually in  
U.S.

- Cystic fibrosis (CF) is a life-threatening inherited disease caused by mutations in the cystic fibrosis transmembrane conductance regulator (CFTR), leading to reduced and/or loss of CFTR function<sup>3,4,5</sup>
- Progressive lung disease is the primary cause of morbidity and mortality with loss of CFTR-mediated ion transport leading to<sup>6</sup>
  - Airway mucus obstruction
  - Recurrent bacterial infection
  - Inflammation
- According to the U.S. Cystic Fibrosis Foundation, the median age at death for patients with CF in the United States was 36.6 years in 2022<sup>7</sup>
- CFTR modulators, first approved in 2012 and now used in combination, are emerging as standard of care for eligible patients<sup>8</sup>
- **Limitations of CFTR Modulators:** Not effective for all CFTR mutation types, heterogeneous patient response, GI / liver tolerability, frequent dosing<sup>8</sup>

1. U.S. Cystic Fibrosis Foundation – About Cystic Fibrosis, accessible at: [About Cystic Fibrosis | Cystic Fibrosis Foundation](#) (cff.org); 2. U.S. Cystic Fibrosis Foundation – 2022 CFF Patient Registry Highlights; 3. O’Sullivan BP, et al. *Lancet* 2009;373:1891-904; 4. Elborn JS, et al. *Lancet* 2016; 388:2519-31; 5. Sanders DB, et al. *Pediatr Clin North Am.* 2016;63:567-84; 6. Stoltz DA, et al. *N Engl J Med.* 2015, 372 (4): 351-362; 7. Cystic Fibrosis Foundation (2022) Patient Registry Annual Data Report; 8. Hapnadak SG, et al. *J Cyst Fibros.* 2020;19(3):344-354

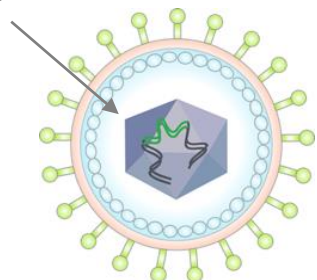
GI, gastrointestinal; U.S., United States

# KB407 Designed To Address Major Unmet Needs in CF

Multiple opportunities for KB407 to improve CF patient outcomes as mutation agnostic, redosable gene therapy

## KB407

CFTR gene



Replication-incompetent HSV-1 vector containing functional human CFTR

Target Segments for KB407		Estimated Patients
1	<b>Patients ineligible for CFTR modulator therapy including CFTR null patients</b> 10%+ of all CF patients <sup>1</sup>	<b>10K</b>
2	<b>Patients either weakly or non-responsive to TRIKAFTA®, ppFEV<sub>1</sub> increase &lt; 5%</b> 15-25% of patients otherwise eligible for TRIKAFTA <sup>2</sup>	<b>19K</b>
3	<b>Alternate regimen for patients that poorly tolerate TRIKAFTA</b> 5% of patients otherwise eligible for TRIKAFTA <sup>2</sup>	<b>5K</b>
+	<b>Upside: Combination therapy or direct competition with TRIKAFTA if demonstrating superior dosing, efficacy, and/or safety</b>	<b>All 105K</b>

1. Krystal estimates based on CFF Patient Registry 2019, ECFS Patient Registry 2018; 2. Krystal estimates based on Middleton PG, et al. *N Engl J Med.* 2009;381:1809-1819; Heijerman HG, et al. *Lancet* 2019;394:1940-1948; Trikafta® FDA Label, Revised 10/2021

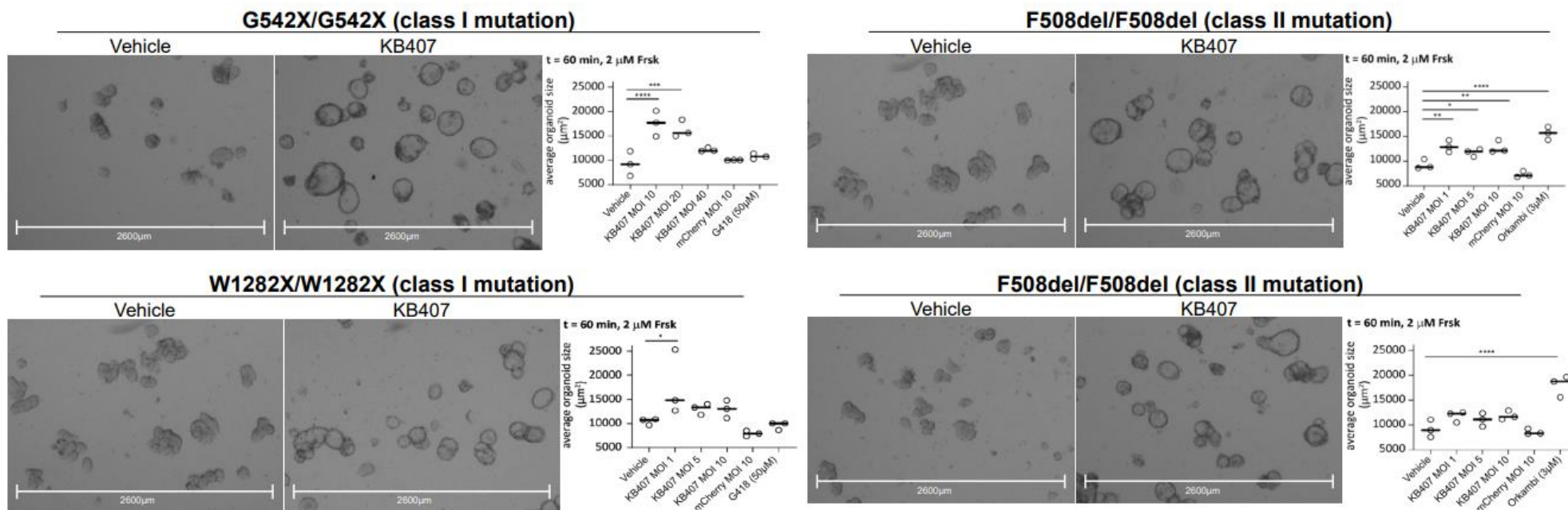
CF, cystic fibrosis; CFTR, cystic fibrosis transmembrane conductance regulator; HSV-1, herpes simplex virus type 1; ppFEV<sub>1</sub>, percent predicted forced expiratory volume in 1 second

Other than VYJUVEK, all products described in this presentation are investigational therapies

# KB407 Corrected *CFTR* Defect in 3D Patient-Derived Intestinal Organoids

Restoration of normal cystic organoid morphology occurs irrespective of underlying *CFTR* mutation

## Ex Vivo KB407 Dose-Ranging and Pharmacodynamics in 3D Organotypic Cultures



- Transduction by KB407 leads to a restoration of normal cystic organoid morphology within 24 hours of infection, irrespective of the underlying *CFTR* mutation
- KB407 also found to transduce primary CF patient derived small airway epithelial cells in a dose-dependent manner; the vector efficiently produces functional, full-length CFTR protein that properly traffics to the cell membrane

Freedman C, et al. Poster at the ASGCT 2020 Annual Meeting. Virtual. May 12-15, 2020; Krystal Biotech. Data on file.

CF, cystic fibrosis; CFTR, cystic fibrosis transmembrane conductance regulator; MOI, multiplicity of infection

Other than VYJUVEK, all products described in this presentation are investigational therapies

# Repeat Dose GLP IND-Enabling Toxicology Study in NHPs

Repeat dose of KB407\* well-tolerated and broadly distributed throughout lung tissue in NHPs

## Study Design

Group	n	Avg. Dose Deposited in Lungs (PFU / administration)	Dosing Days	Necropsy Days
Air	6	-	1, 8, 15	16
Vehicle	10	-	1, 8, 15	16, 43
Low Dose KB407	10	1.81 x 10 <sup>8</sup> (male)	1, 8, 15	16, 43
		2.33 x 10 <sup>8</sup> (female)		
High Dose KB407	10	1.43 x 10 <sup>9</sup> (male)	1, 8, 15	16, 43
		2.11 x 10 <sup>9</sup> (female)		

## Toxicology: NOAEL determined to be high dose

- No toxicity based on mortality, cage side/clinical observations, body weights, pulmonary function, and pathology
- Effects considered non-adverse due to the mild severity, lack of impact on health, and reversible on recovery

\*KB407 IND cleared

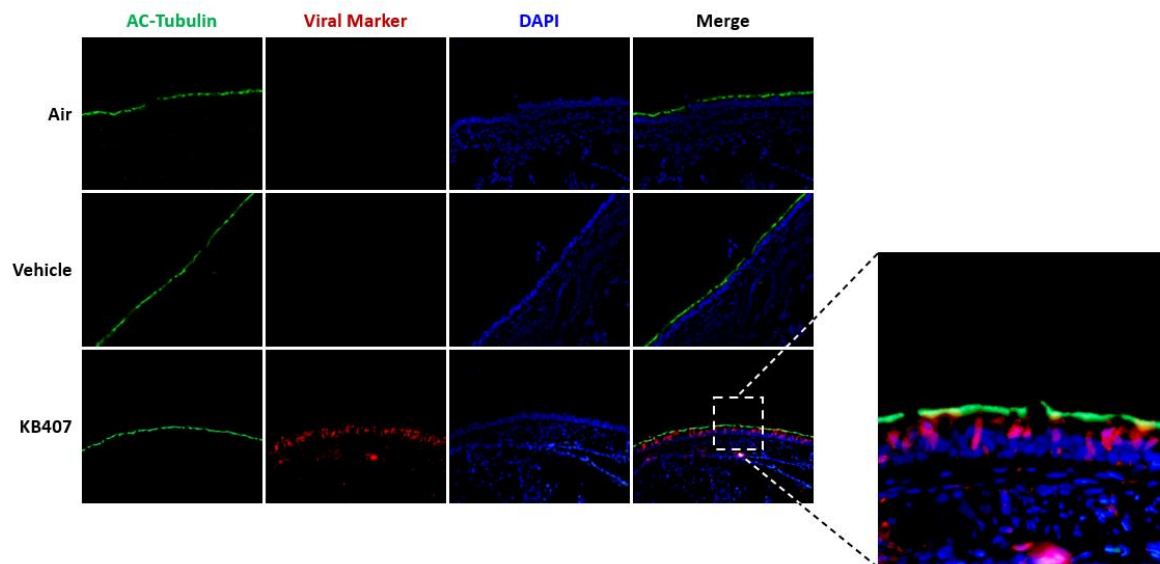
Parry T, et al. Poster #541 at the 2021 North American Cystic Fibrosis Conference (NACFC). Virtual. November 1-5, 2021; Krystal Biotech. Data on file.

GLP, good laboratory practice; IND, Investigational New Drug; NHPs, nonhuman primates; NOAEL, no observed adverse effect level; PFU, plaque forming unit

Other than VYJUVEK, all products described in this presentation are investigational therapies

## Biodistribution: Broad distribution and sustained expression in NHP lungs

- A significant percentage of airway epithelial cells KB407+ positive by microscopy; quantification based on 10 fields of view, high dose group, lungs collected on Day 16, one day after last dose
  - 59.6%** (n = 298/500) of ciliated cells (AC-Tubulin+) were KB407+ **representative image below**
  - 17.4%** (n = 38/218) of club cells (SCGB1A1+) were KB407+
  - 8.0%** (n = 8/100) of goblet cells (MUC5AC+) were KB407+
  - Only 20.6% of KB407+ cells were also CD163+ suggestive of limited macrophage uptake
- Human *CFTR* expression also detected in lungs harvested on Day 43, 28 days after last dose





# KB407 Phase 1 Study CORAL-1

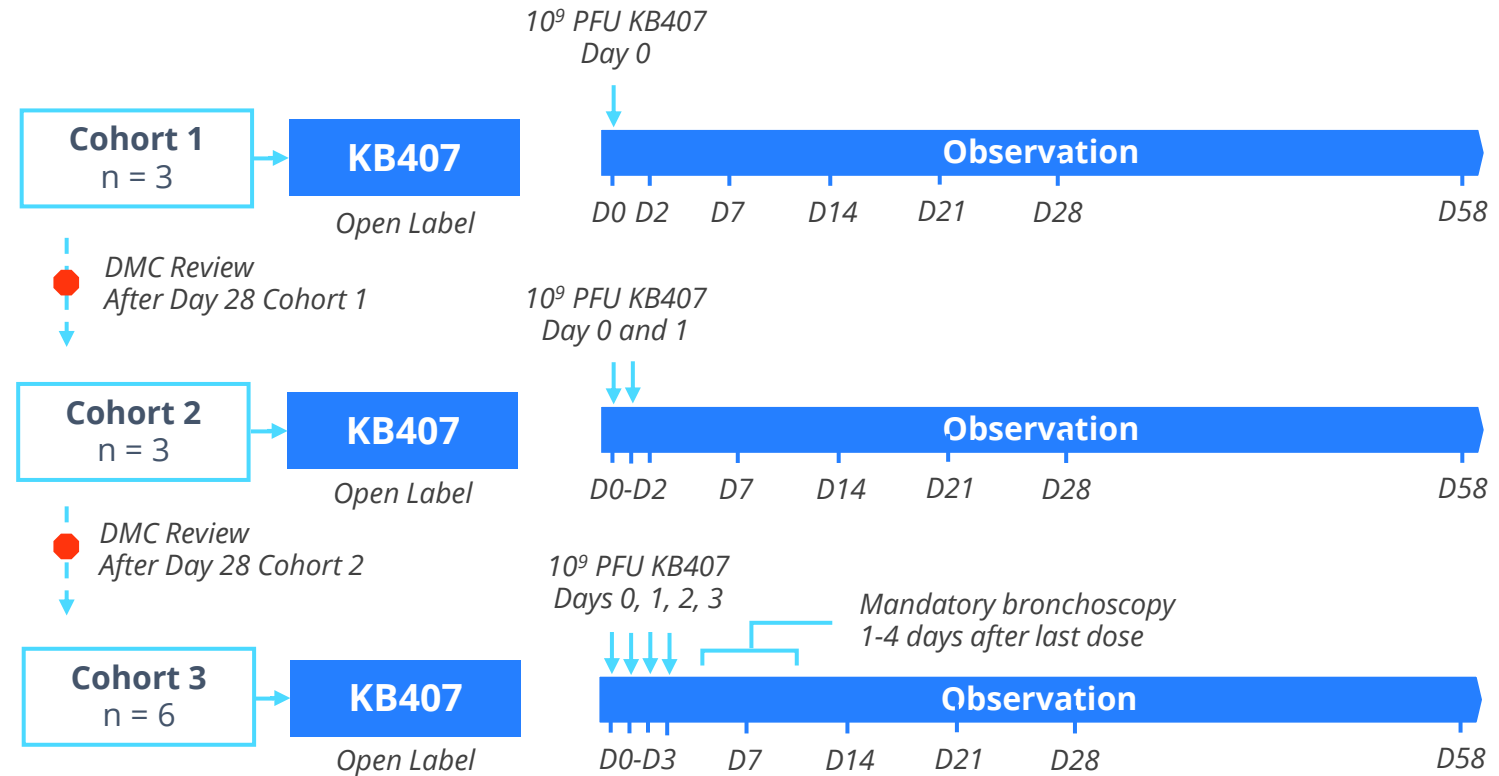
Ongoing study to assess safety and transduction efficiency of ascending doses of KB407 in adults with CF

## Study Objectives

- Evaluate safety and tolerability of **ascending doses** of nebulized KB407, as well as preliminary efficacy evaluation
- KB407 transduction and *CFTR* transgene expression in lung (bronchoscopy sub-study only)
- Effects of KB407 on pulmonary function (ppFEV<sub>1</sub>)
- Effects of KB407 on lung-specific quality of life (CFQ-R respiratory domain)
- Vector shedding and biodistribution will also be assessed in blood, urine, buccal, and sputum samples

## Key Enrollment Criteria

- Age ≥ 18 years with confirmed diagnosis of CF
- ppFEV<sub>1</sub> ≥50% and ≤100%
- Resting O<sub>2</sub> saturation ≥92% on room air
- **Cohort 1 and 2:** Participants may receive concurrent modulator therapy, bronchoscopy optional
- **Cohort 3:** No more than 3 out of 6 participants may be on concurrent modulator therapy, bronchoscopy mandatory



Cleared first two cohorts and on track to start third in 2H 2024

# Alpha-1 Antitrypsin Deficiency (AATD)

Monogenic disorder that leads to progressive lung disease

## AATD<sup>4</sup>

- Alpha-1 Antitrypsin (AAT) is the most abundant serine protease inhibitor in human plasma and regulator of protease activity, in particular neutrophil elastase in lungs
- AATD is an autosomal co-dominant inherited genetic disorder resulting from mutations in *SERPINA1* gene encoding AAT; with misfolding mutations Pi\*ZZ and Pi\*SZ as the most common
- Genetic deficiency of AAT can result in unopposed neutrophil elastase activity, excessive degradation of elastin, collagen, and fibronectin and progressive pulmonary impairment

## Unproven and Limited Treatment Options<sup>4,5</sup>

- There is no cure available for patients with AATD
- Standard of care is augmentation therapy, consisting of weekly IV infusions of AAT
- Multiple limitations with current treatment options: burdensome on patients and clinical benefit of augmentation therapy on lung function is not well defined

## Severe AATD Prevalence<sup>1-3\*</sup>

Over **60,000** patients in the U.S.

Over **250,000** patients globally

**KB408 in Development as Redosable, Non-Invasive, Inhaled Gene Therapy to Enable Local AAT Expression in Lung**

1. Aboussouan LS, et al. *Respir Med.* 2009;103:335-341; 2. Stoller JK, et al. *Int J Chron Obstruct Pulmon Dis.* 2013;10:26-24; 3. Blanco I, et al. *Int J Chron Obstruct Pulmon Dis.* 2017;12:561-569; 4. Greene CM, et al. *Nat Rev Dis Primers* 2016;2:16051; 5. Brantly ML, et al. *Int J Chron Obstruct Pulmon Dis.* 2019;6:100-114

\*Severe AATD defined as patients with Pi\*ZZ genotype

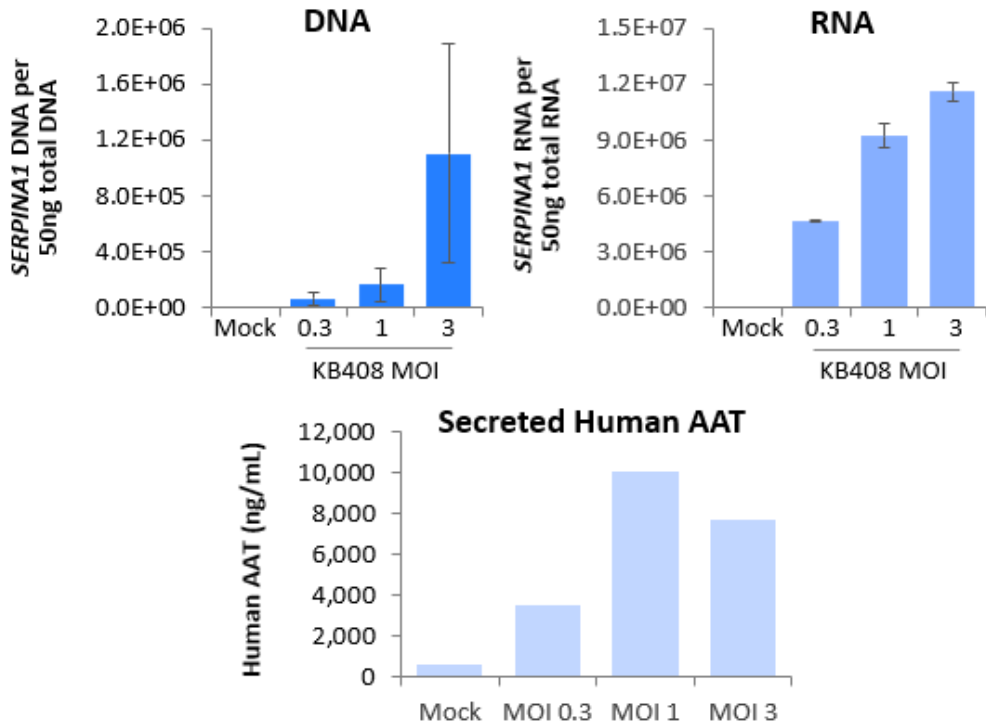
AAT, alpha-1 antitrypsin; AATD, alpha-1 antitrypsin Deficiency; IV, intravenous; U.S., United States

Other than VYJUVEK, all products described in this presentation are investigational therapies

# KB408 for AATD

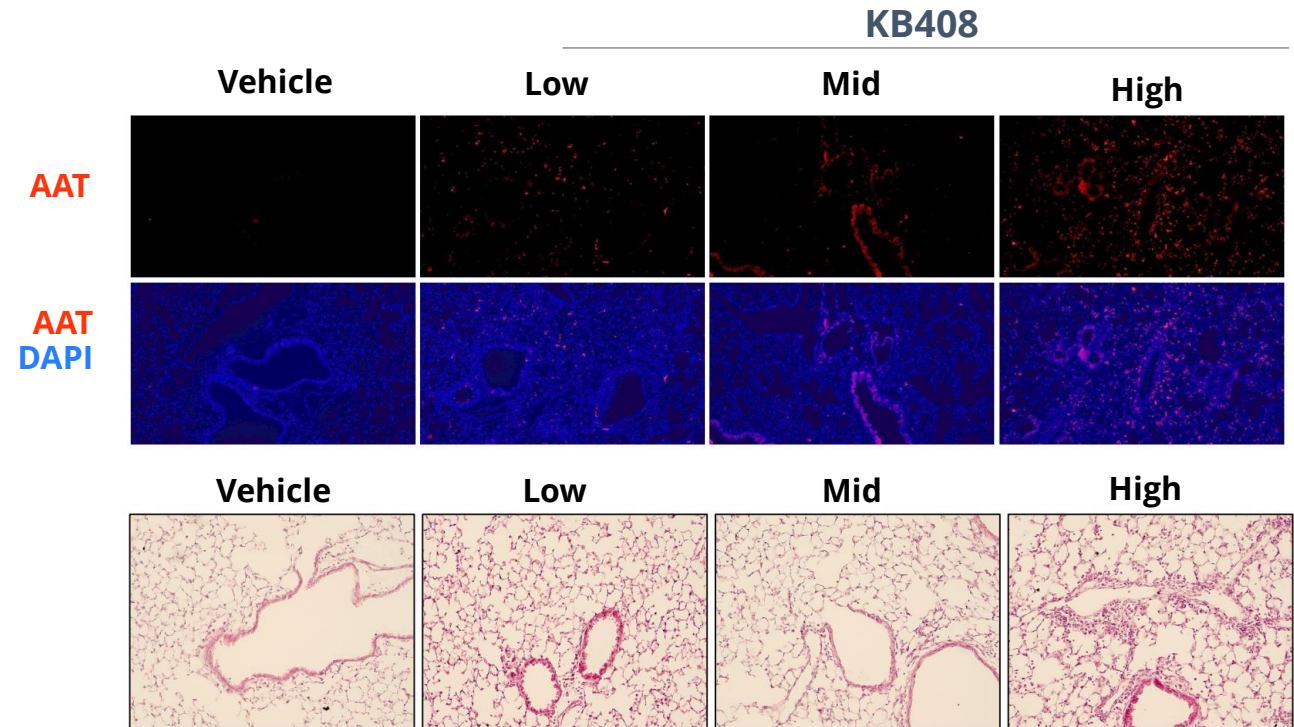
Dose-dependent expression of human AAT in clinically relevant cells and mouse lungs

## Dose-dependent expression of AAT in primary human small airway epithelial cells



## Widespread human AAT expression in mouse lungs without visible toxicity

- Mice received vehicle or KB408 intratracheally on Day 1 and Day 3, three dose levels
- Lungs collected on Day 4 for histology and AAT expression analysis by immunofluorescence
- Similar findings in *SERPINA1* deficient (*Serpina1<sup>em3Chmu</sup>*) mice



Artusi S et al., Poster # 40. at the 2021 European Society of Gene and Cell Therapy

AAT, alpha-1 antitrypsin; AATD, alpha-1 antitrypsin deficiency; DAPI, 4',6-diamidino-2-phenylindole; MOI, multiplicity of infection

Other than VYJUVEK, all products described in this presentation are investigational therapies

# KB408 Phase 1 Study SERPENTINE-1

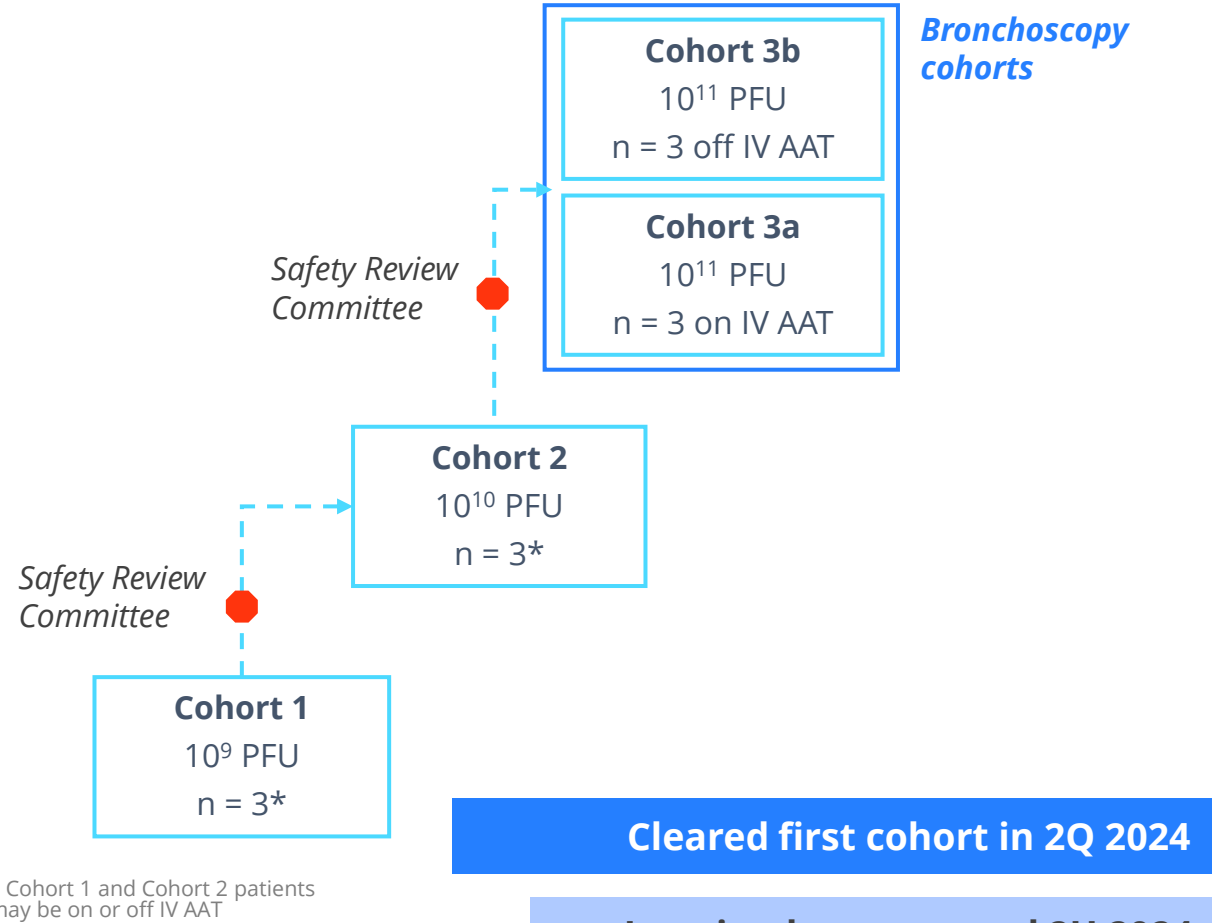
Open-label, single dose escalation study in adult patients with AATD with a PI\*ZZ genotype

## Study Objectives

- Evaluate safety and tolerability, including
  - Frequency and severity of adverse events
  - Changes in vital signs, spirometry, ECGs, and clinical labs
- Measure AAT and neutrophil elastase concentration in serum, sputum, and bronchoalveolar lavage fluid
- Evaluate transgene expression in lung tissue
- Exploratory evaluation of impact on inflammatory biomarkers, quality of life measures, and pharmacodynamic markers

## Key Enrollment Criteria

- Key Inclusion Criteria
  - Age  $\geq 18$  to  $\leq 70$
  - PI\*ZZ or Pi\*ZNull genotype
  - Serum AAT  $< 11\mu\text{M}$  - **Cohort 3b only**
- Key Exclusion Criteria
  - ppFEV<sub>1</sub>  $< 50\%$
  - IV AAT within 6 weeks - **Cohort 3b only**



AAT, alpha-1 antitrypsin; AATD, alpha-1 antitrypsin deficiency; ECG, electrocardiogram; ppFEV<sub>1</sub>, percent predicted forced expiratory volume in 1 second; IV, intravenous; PFU, plaque forming unit

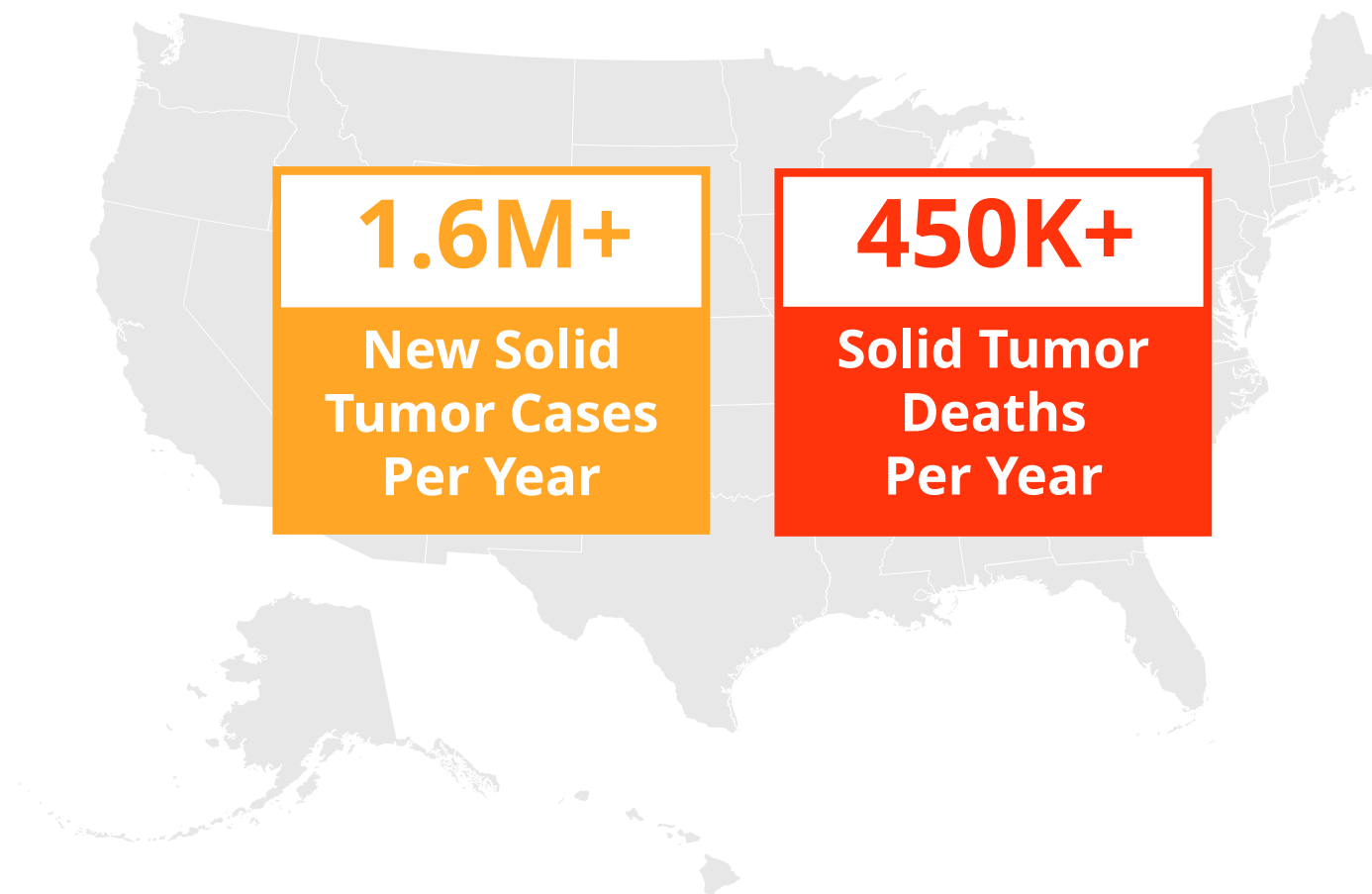
Other than VYJUVEK, all products described in this presentation are investigational therapies

# Oncology Pipeline



# Major Unmet Needs in Checkpoint Inhibitor (CPI) Refractory Solid Tumors

**Solid Tumor Incidence and Mortality in U.S.**  
*2023 SEER Estimates<sup>1</sup>*



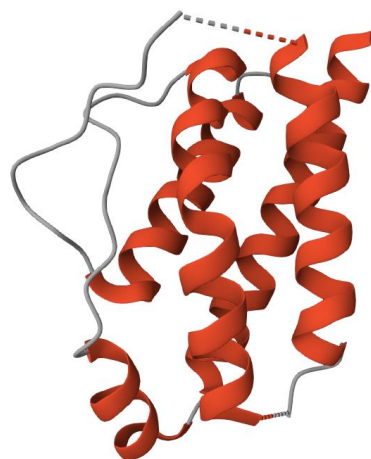
1. NCI SEER. 2023; <https://seer.cancer.gov/statfacts/html/common.html> [accessed July 20, 2023], combined estimates for incident cases and deaths from cancers of the anus, bladder, bone and joint, brain and nervous system, breast, cervix uteri, colon and rectum, esophagus, kidney and renal pelvis, larynx, liver and intrahepatic bile duct, lung and bronchus, melanoma, oral cavity and pharynx, ovary, pancreas, prostate, small intestine, stomach, testis, thyroid, uterus, and vulva

SEER; Surveillance, Epidemiology, and End Results Program; U.S., United States

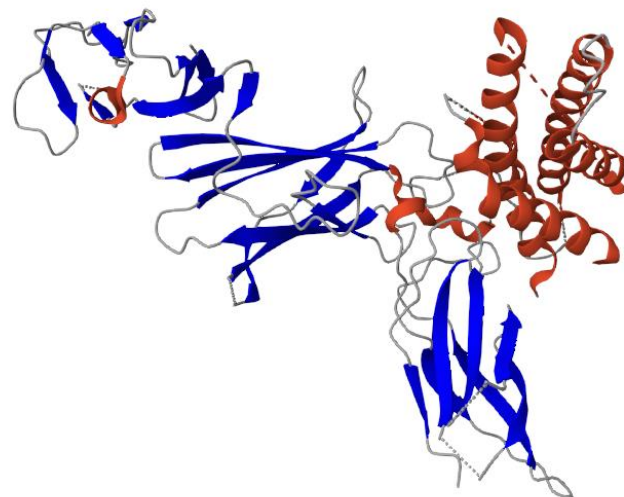
# HSV-1 Based Vector Coded for the Local Delivery of Both IL-2 and IL-12

*Cytokines with synergistic functions and therapeutic potential*

**IL-2**



**IL-12**



+

## **Expand and Activate Lymphocyte Population<sup>1-3</sup>**

Well-characterized NK and T cell activator with known roles inducing T cell proliferation and promoting NK and T cell cytotoxic functions

## **Reinforce Cytotoxic Effector Functions<sup>4,5</sup>**

Complementary cytokine known to promote lymphocyte effector functions and IFN-gamma secretion

1. IL-2 image from the RCSB PDB (RCSB.org) of PDB ID 1M47 [image generated July 20 2023]; 2. Jiang T, et al. *Oncolmmunology*. 2016; 5(6):e1163462; 3. Morgan DA, et al. *Science*. 1976; 193(4257):1007-1008; 4. IL-12 image from the RCSB PDB (RCSB.org) of PDB ID 1F45 [image generated July 20 2023]; 5. Lasek W, et al. *Cancer Immunol Immunother*. 2014; 63:419-35

IL-12, interleukin-12; IL-2, interleukin-2; NK, natural killer

Other than VYJUVEK, all products described in this presentation are investigational therapies

# Advantages of Replication-Defective HSV-1 Based Cytokine Delivery

Platform well suited to accomplish dual goals of targeted but sustained delivery of IL-2 and IL-12 to the tumor

## Optimal vector platform to maximize cytokine expression and immune activation

- ✓ Efficiently transduces a wide variety of cell types maximizing reach within tumor
- ✓ DNA payload persists in transduced cells extending the window of cytokine expression
- ✓ Lack of replication avoids premature lytic cell death or host cell shutdown
- ✓ Redosability to further boost local cytokine expression
- ✓ Safety profile suitable for both **inhaled** or **intratumoral** administration

Krystal Biotech, Data on File.

DNA, deoxyribonucleic acid; HSV-1, herpes simplex virus type 1; IL-12, interleukin-12; IL-2, interleukin-2

Other than VYJUEK, all products described in this presentation are investigational therapies



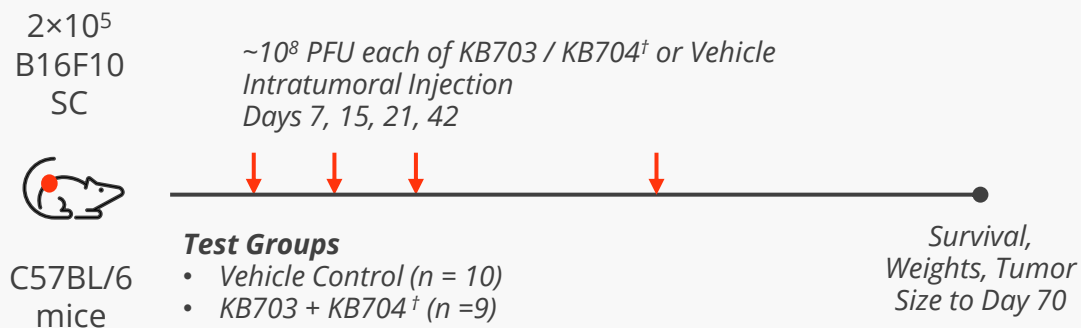
# Intratumoral IL-12 and IL-2 Effective in Cold Syngeneic Mouse Tumor Model

Clear antitumor effect and survival benefit in checkpoint inhibitor refractory B16F10 tumor model

## Single Flank B16F10 Melanoma Model

- B16F10 is a subclone of the B16 cancer cell line originally derived from the skin of a C57BL/6 mouse with melanoma
- B16F10 tumors are highly aggressive and minimally responsive to immunotherapy, including refractory to PD-1 targeting CPI
- Among the most stringent melanoma cell lines for the evaluation of candidate immunotherapeutics

## Study Design



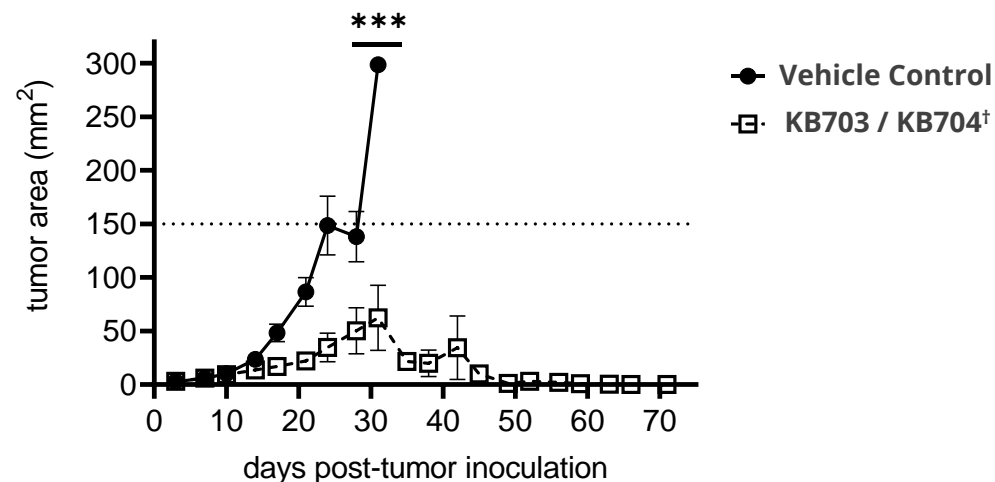
Krystal Biotech, Data on File.

<sup>†</sup> KB703 encodes murine IL-12, KB704 encodes murine IL-2, and KB703 + KB704 is murine equivalent to KB707

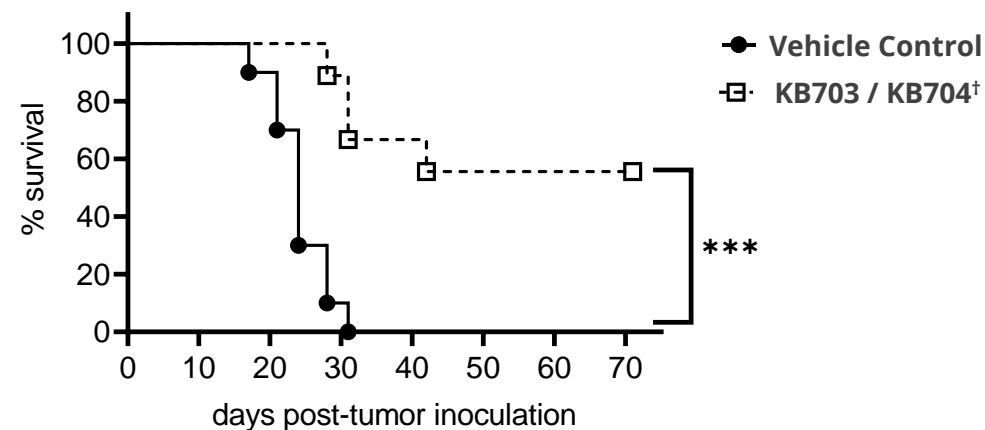
CPI, checkpoint inhibitor; IL-12, interleukin-12; IL-2, interleukin-2; PD-1, programmed cell death protein; PFU, plaque forming unit; SC, subcutaneous

Other than VYJUVEK, all products described in this presentation are investigational therapies

## Injected Tumor Size



## Survival



\*\*\*p<0.001

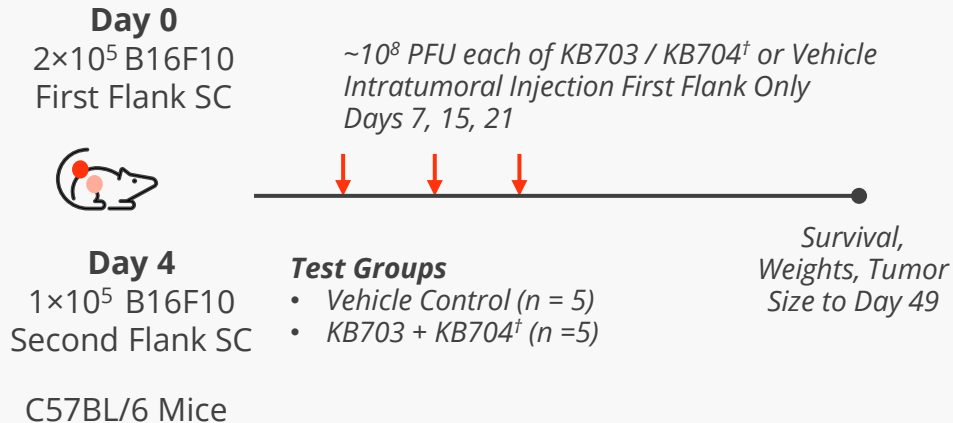
# Evidence of Systemic Immune Response with Intratumoral IL-12 and IL-2

Antitumor effect and survival benefit in dual flank B16F10 tumor model

## Dual Flank B16F10 Melanoma Model

- Dual flank model mimics metastatic, checkpoint refractory melanoma seen in late line clinical treatment setting
- Only tumor in first flank is injected to evaluate impact of systemic response on secondary tumor outgrowth

### Study Design

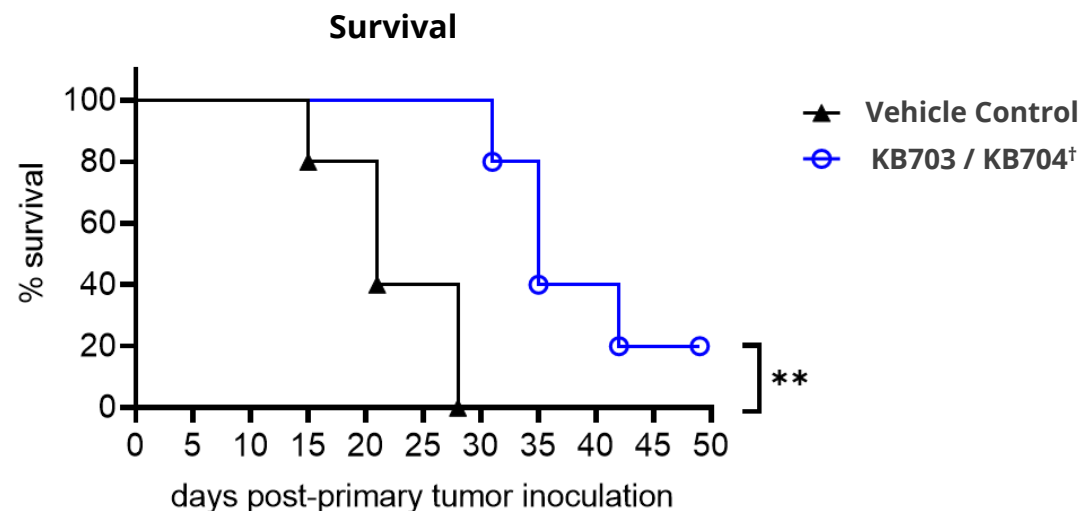
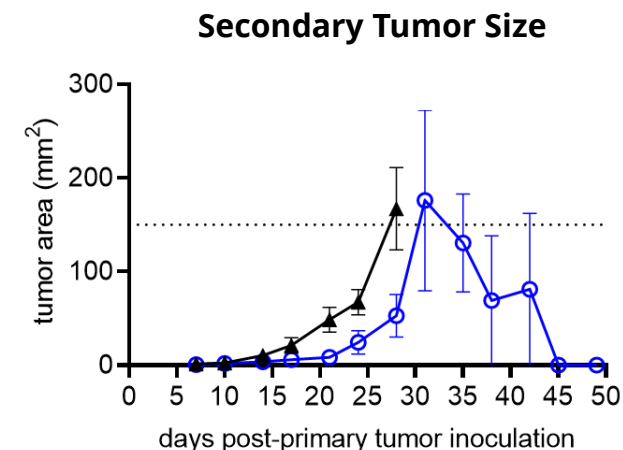
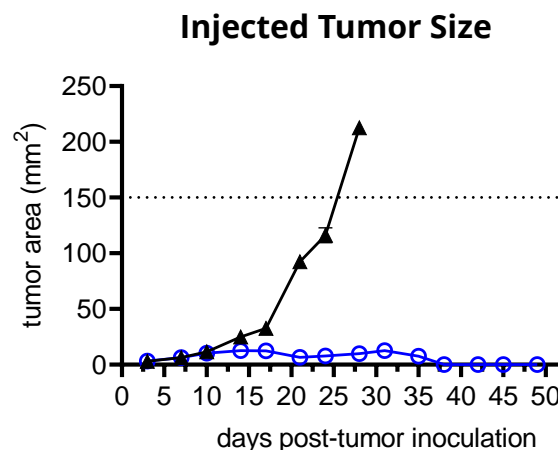


Krystal Biotech, Data on File.

<sup>†</sup>KB703 encodes murine IL-12, KB704 encodes murine IL-2, and KB703 + KB704 is murine equivalent to KB707

IL-12, interleukin-12; IL-2, interleukin-2; PFU, plaque forming unit; SC, subcutaneous

Other than VYJUVEK, all products described in this presentation are investigational therapies



\*\*p < 0.01

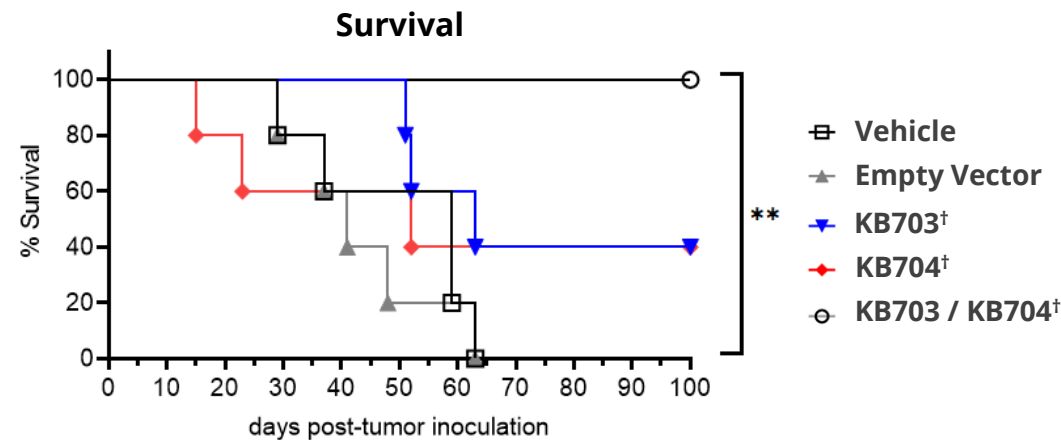
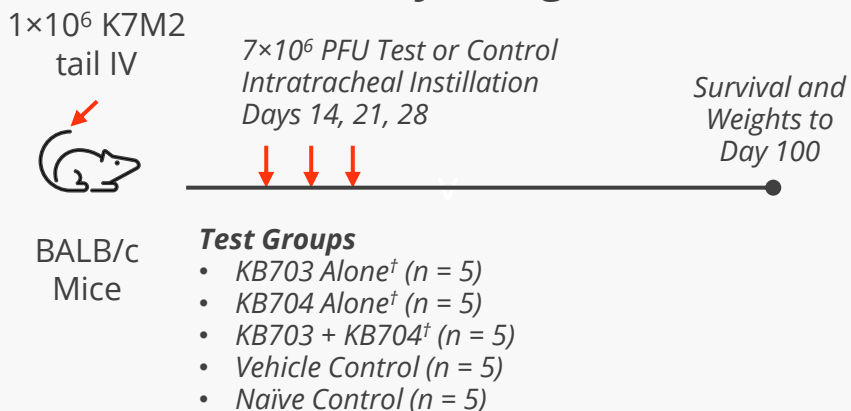
# Lung Delivery Effective in Metastatic Osteosarcoma Model

Local delivery of IL-12 and IL-2 confers clear survival benefit in otherwise lethal, metastatic osteosarcoma

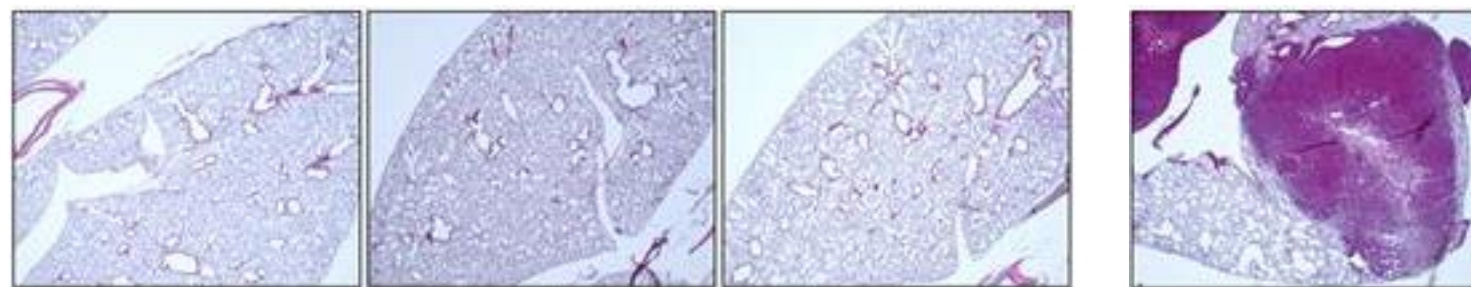
## Metastatic K7M2 Osteosarcoma Model

- K7M2 is an osteoblast cell line derived from bone of mouse with spontaneous osteosarcoma<sup>1</sup>
- Considered highly aggressive with pulmonary metastatic rate of over 90% in mice<sup>1</sup>
- Previously shown to be non-responsive to PD-1/PD-L1 targeting therapies, partial benefit from combo therapies<sup>2</sup>

## Study Design



## Lung H&E, Day 100



**KB703 / KB704<sup>†</sup>**  
Representative images from n = 3 of 5 survivors

**KB703 Alone<sup>†</sup>**  
Representative image from n = 1 of 2 survivors

1. Khanna C, et al., *Clin Exp Metastasis*. 2000;18(3):261-271; 2. Lussier DM et al. *J Immunother Cancer* 2015;3(21);

Krystal Biotech, Data on File.

<sup>†</sup>KB703 encodes murine IL-12, KB704 encodes murine IL-2, and KB703 + KB704 is murine equivalent to KB707

H&E, hematoxylin and eosin; IL-12, interleukin-12; IL-2, interleukin-2; IV, intravenous; PD-1, programmed cell death protein 1; PD-L1, programmed death-ligand 1; PFU, plaque forming unit

Other than VYJUVEK, all products described in this presentation are investigational therapies

# KB707-01 Intratumoral Phase 1 Study OPAL-1

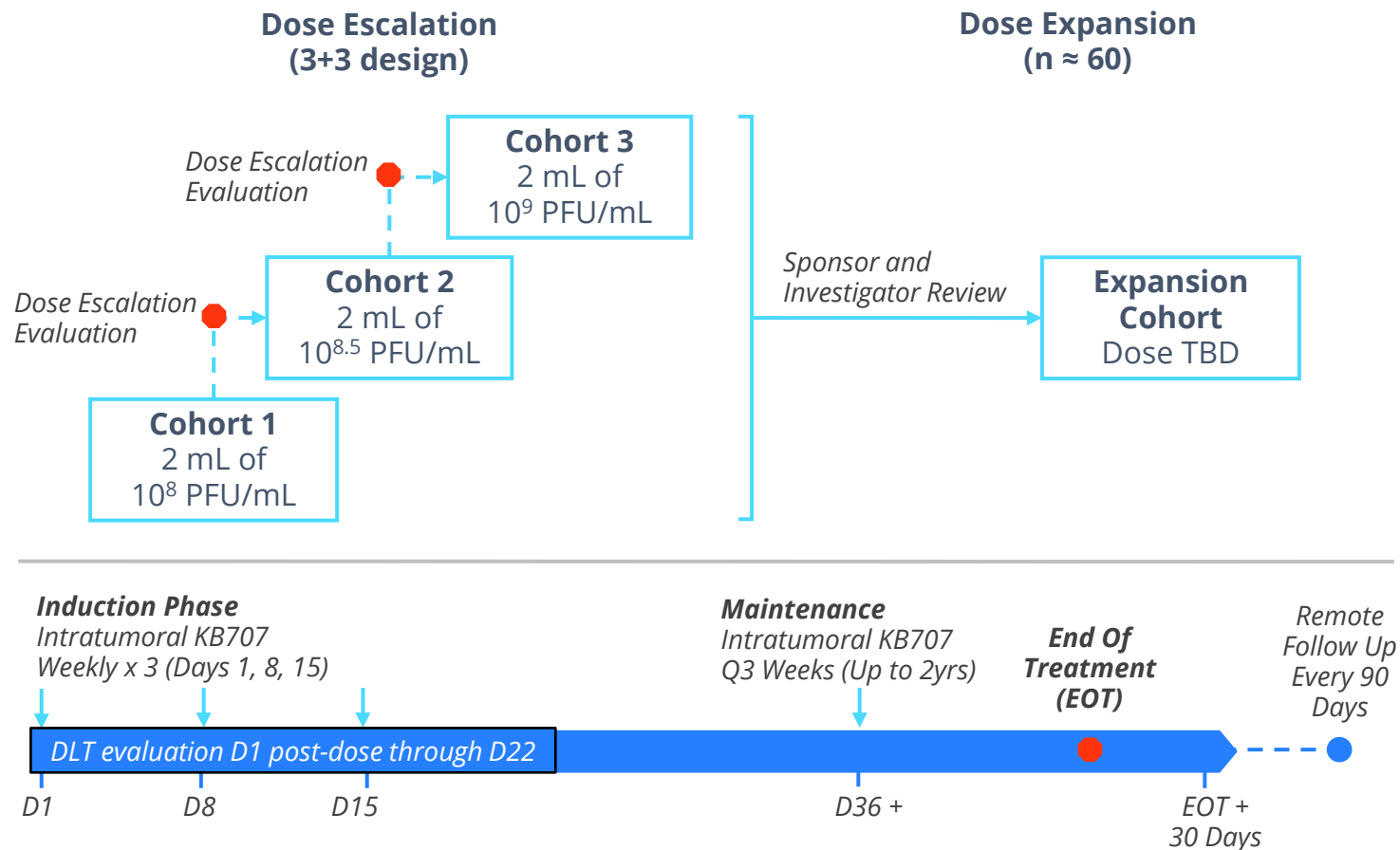
Open-label study to assess safety, tolerability, and preliminary efficacy

## Study Objectives

- Evaluate the safety and tolerability
- Evaluate for maximum tolerated dose
- Evaluate preliminary efficacy as assessed by multiple measures including
  - Objective response rate
  - Progression free survival
  - Overall survival
- Assess immunological effect of KB707 in blood and tumor
- Phase 1 initiated and collecting biomarkers

## Key Enrollment Criteria

- Age  $\geq 18$  years with histologically confirmed locally advanced or metastatic solid tumor who has relapsed on or are refractory to standard of care.
- At least one measurable and injectable tumor accessible by transcutaneous route



Cleared all three dose escalation cohorts and enrolling in dose expansion

Interim data expected 2H 2024

DLT, dose limiting toxicity; PFU, plaque forming unit; TBD, to be determined

Other than VYJUVEK, all products described in this presentation are investigational therapies

# KB707 Clinical Development Outlook

Moving rapidly towards readouts and goal of unlocking therapeutic potential of cytokines in multiple solid tumor types

## Intratumoral KB707

- On track for ***first interim data readout in 2H 2024***

## Inhaled KB707

- Cleared first dose escalation cohort in Phase 1 KYANITE-1 in 2Q 2024
- Study design is similar to OPAL-1 with 3+3 dose escalation and expansion design
- KYANITE-1 is third clinical study evaluating Krystal genetic medicine targeting the lung via inhalation

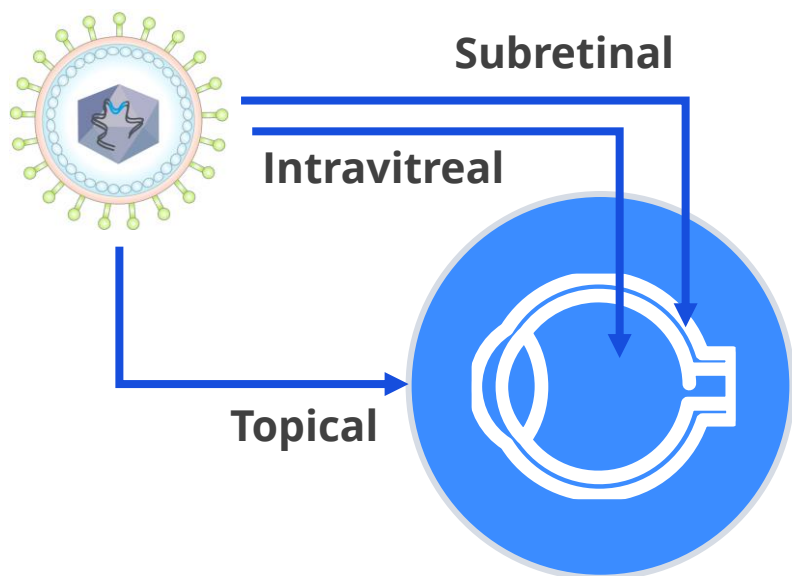
***Both intratumoral and inhaled KB707 have been granted Fast Track Designations allowing for early and frequent communication with FDA throughout review process, and potential eligibility to apply for Accelerated Approval and Priority Review***

# Ophthalmology Pipeline



# Potential for Pipeline Expansion in Ophthalmology

Pursuing opportunities to leverage unique attributes of HSV-1 platform including large cargo capacity



## Current Gene Therapy Pipeline Dominated by Single Vector

- AAVs have had success delivering small genes to back of the eye but many challenges remain
- Small cargo capacity is biggest limitation of AAVs; unable to address many large gene inherited retinal disorders (IRDs) and limits potential to deliver more complex gene editing machinery or regulatory elements
- Clinical applications of AAV have also been primarily focused on the retina; new vectors needed to target all clinically relevant cells of the eye
- Immunotoxicity a persistent concern with AAVs

## HSV-1 is a Highly Differentiated, Large Cargo Alternative

- HSV-1 exhibits natural tropism for epithelial and neuronal cells of the eye
- Cargo capacity to address the most common large gene IRDs
- Currently exploring both front and back of the eye delivery, repeat dosing
- Topical, repeat application to the front of eye both safe and effective in clinic under compassionate use

**Near-term opportunity to expand utility for ophthalmic B-VEC in DEB followed by potential pipeline expansion to target unmet needs in front and back of eye**

Ghobara HH, et al. *Clin Ophthalmol.* 2022;16:1753-1771; Vetencourt AT, et al. *N Engl J Med.* 2024;390:530-535

AAV, adeno-associated virus; B-VEC, beremagene geperpavec; DEB, dystrophic epidermolysis bullosa; HSV-1, herpes simplex virus type 1; IRD, inherited retinal disorder

Other than VYJUVEK, all products described in this presentation are investigational therapies

# Back of the Eye Gene Delivery Using Krystal's HSV-1 Platform

Broad expression of reporter payload across retina following subretinal or suprachoroidal administration

## Pilot Eye Injection Study

- Single injection study in mice, data for suprachoroidal and subretinal routes shown
- Mice received single injection of Krystal mCherry reporter virus and eyes collected at 24 hours for immunofluorescence
- Minimal inflammation observed following injection via any route
- No mCherry signal in control treated eyes
- Previously reported reporter virus colocalization with RPE65+ cells in rat subretinal injection study

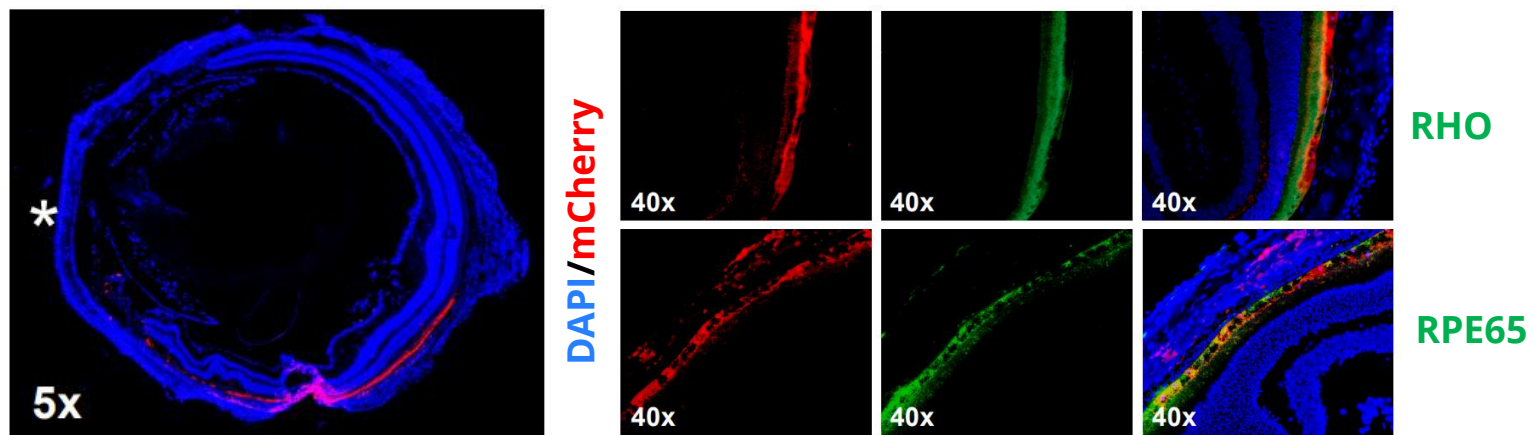
Cartwright HN et al., Poster # 3978 at the 2024 Association for Research in Vision and Ophthalmology (ARVO) Annual Meeting

\* Denotes cornea

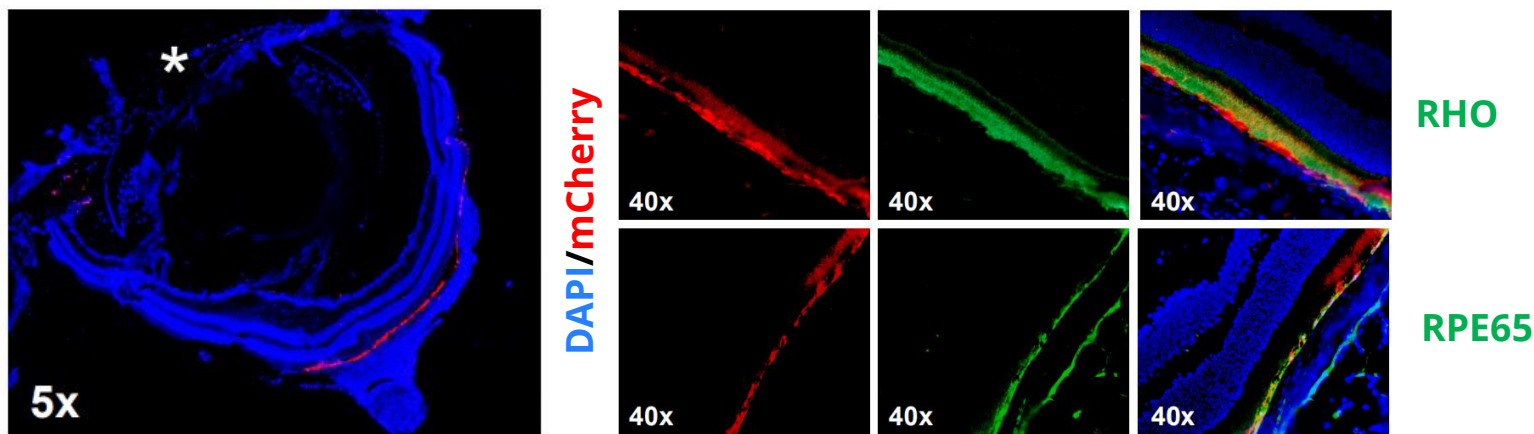
DAPI, 4',6-diamidino-2-phenylindole; HSV-1, herpes simplex virus type 1; RHO, rhodopsin; RPE65, retinal pigment epithelium-specific 65 kDa protein

Other than VYJUVEK, all products described in this presentation are investigational therapies

## Suprachoroidal



## Subretinal



Reporter virus signal colocalized to both RPE65+ and RHO+ cells



# Next Steps in Ophthalmology

Expedite clinical development of ophthalmic B-VEC while building data to support pipeline expansion

## B-VEC for Ocular Complications of DEB

- On track to initiate registrational study in 4Q 2024

## Pipeline Expansion

- Evaluating multiple, preclinical-stage genetic medicine candidates for the treatment of diseases of the front and back of the eye

### Sample Indication: Stargardt Disease<sup>1-4</sup>

- Inherited retinal disorder primarily caused by mutations in *ABCA4*
- Leads to progressive vision loss and blindness, no FDA approved therapy
- *ABCA4* is a large gene that does not fit in currently used AAV vectors

26K

Estimated Patients  
in U.S.\*

37K

Estimated Patients  
in EU Major Markets\*\*

1. Cicinelli MV, et al. *Clin Optim (Auckl)*. 2019;11:151-165; 2. Runhart EH, et al. *Acta Ophthalmol*. 2022;100:395-402; 3. Bauwens M, et al. *Genet Med*. 2019;21:1761-1771; 4. Schulz H, et al. *Investig Ophthalmol Vis Sci*. 2017;58:394-403

\*Assumed U.S. population of 330M, 1:10K prevalence, 80% *ABCA4*; \*\* Assumed EU population of 457M focused on major markets only (includes EU-4 + UK, Nordics, Benelux, Ireland, Portugal, Switzerland, Poland, Austria), 1:10K prevalence, 80% *ABCA4*

*ABCA4*, ATP-binding cassette, sub-family A, member 4; AAV, adeno-associated virus; B-VEC, beremagene geperpavec; DEB, dystrophic epidermolysis bullosa; EU, European Union; FDA, U.S. Food and Drug Administration;

Other than VYJUVEK, all products described in this presentation are investigational therapies

# Dermatology Pipeline



# KB105, Krystal's Next Clinical Stage Asset in Dermatology

Complementary product for rare disease of the skin significantly derisked by VYJUVEK clinical success

## Autosomal Recessive Congenital Ichthyosis Associated with TGM1 Mutations (TGM1-ARCI)<sup>1-8</sup>

- The most common form of ARCI is caused by a mutation in the *TGM1* gene encoding a protein that is essential for the proper formation of the skin barrier
- The condition is characterized by thick, dry, scaly skin, increased trans-epidermal water loss, risk for dehydration, sepsis, and skin malignancies
- There are **no** approved treatments for TGM1-ARCI
- Topical and systemic retinoids and time-consuming supportive treatments are the most commonly used treatments of care

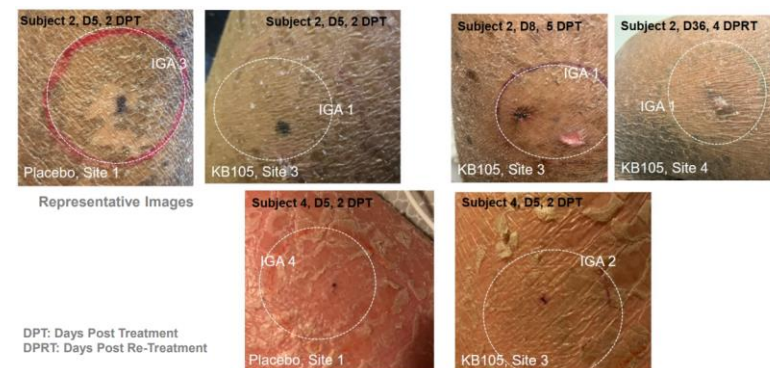


**2K-6K**

Estimated TGM1-ARCI Patients in U.S. and Europe

## KB105: Clinical Stage Asset in Phase 1/2 for TGM1-ARCI<sup>9,10</sup>

- In Phase 1 study, KB105 treatment restored functional TGM1 protein expression and activity in all treated sites
- Phenotypic evaluation limited by small treatment areas, but KB105 treated areas showed reduced reversion to scaling phenotype
- No drug-related AEs noted and no HSV-1 or TGM1 antibodies



**Next Step: Initiate Phase 2 cohort in 1H 2025**

1. Rodriguez-Pazos L, et al. *Actas Dermosifiliogr.* 2013;104(4):270-84; 2. Dreyfus I, et al. *Orphanet J Rare Dis.* 2014;9:1; 3. Hernandez-Martin A, et al. *J Am Acad Dermatol.* 2012;67(2):240-4; 4. Pigg M, et al. *Eur J Hum Genet.* 1998;6(6):589-96; 5. Pigg M, et al. *Acta Dermato-Venereologica.* 2016;96(7):932-37; 6. Foundation for Ichthyosis & Related Skin Types (FIRST); 7. National Organization for Rare Disorders (NORD); 8. Richard G. Autosomal Recessive Congenital Ichthyosis. In: Adam MP, et al. *GeneReviews® [Internet]*. Updated 2017 May 18; 9. Milstone LM, et al. *Arch Dermatol.* 2012;148(9):1080-1; 10. Paller A, et al. Oral presentation at Society for Investigative Dermatology (SID) 2020 Annual Meeting. Virtual. May 13-16, 2020.

AE(s), adverse event(s); ARCI, autosomal recessive congenital ichthyosis; HSV-1, herpes simplex virus type 1; TGM1, transglutaminase 1; U.S., United States

Other than VYJUVEK, all products described in this presentation are investigational therapies

# Aesthetics Pipeline



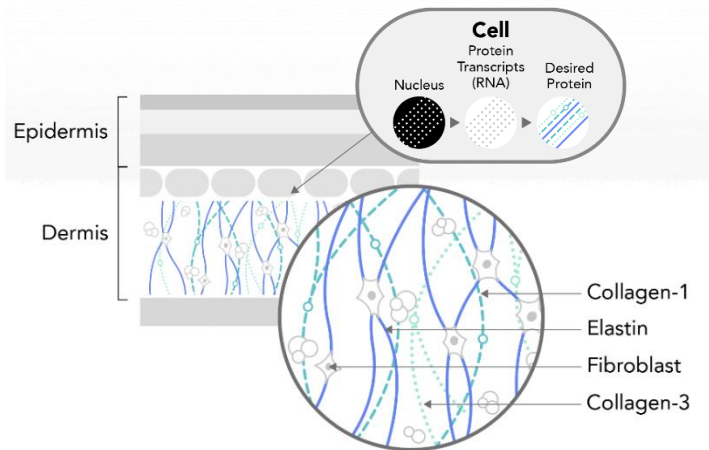
A wholly owned subsidiary of Krystal Biotech, Inc.



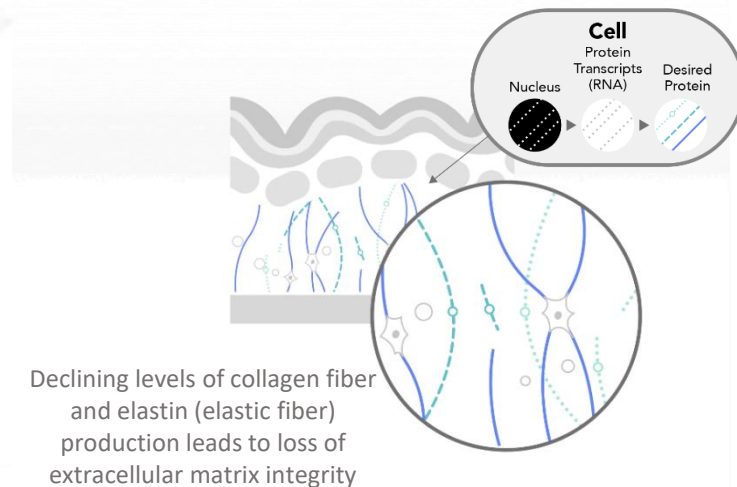
# Characteristic Look of Aging Caused by Declining Levels of Key Proteins in Skin's Extracellular Matrix

- Skin aging is caused, in part, by a reduction of the skin's key proteins: collagen and elastin
- Impaired collagen and elastin synthesis leads to the degradation of the extracellular matrix, affecting overall skin quality and function
- The primary function of the extracellular matrix is to give skin its mechanical and biochemical properties

YOUNGER /  
HEALTHY



AGED /  
PHOTODAMAGED

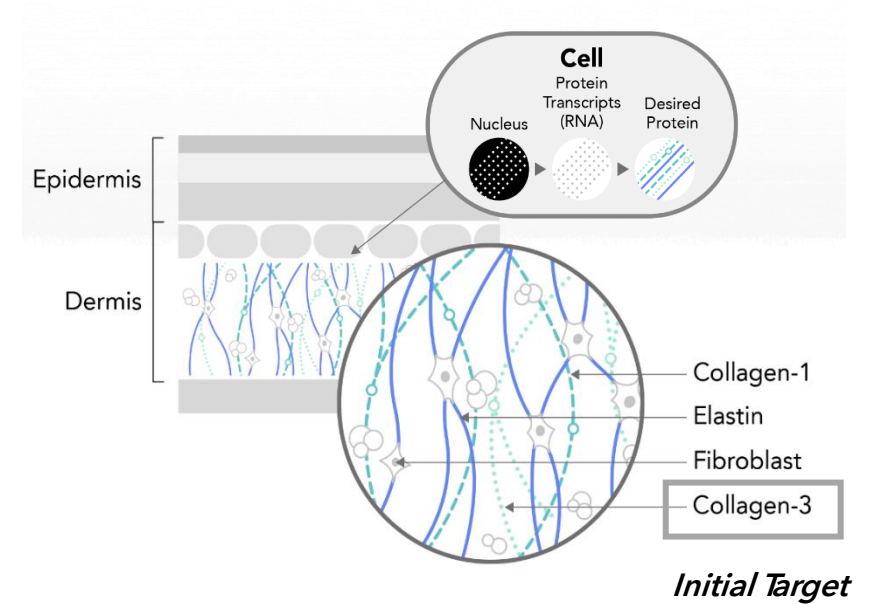


# Jeune Pipeline and Lead Program KB301 Aim to Restore Key Skin Proteins

## Pipeline

Product	Gene	Indication	Discovery	Preclinical	Phase 1	Phase 2	Phase 3	Commercial
<b>KB301</b>	Type III collagen	Lateral Canthal Lines at Rest and Décolleté	→					
<b>KB302</b>	Type I collagen	TBD	→					
<b>KB303</b>	Elastin	TBD	→					
<b>KB304</b>	Type III collagen & elastin	TBD	→					
<b>KB305</b>	Type IV collagen	TBD	→					

## Lead Program KB301

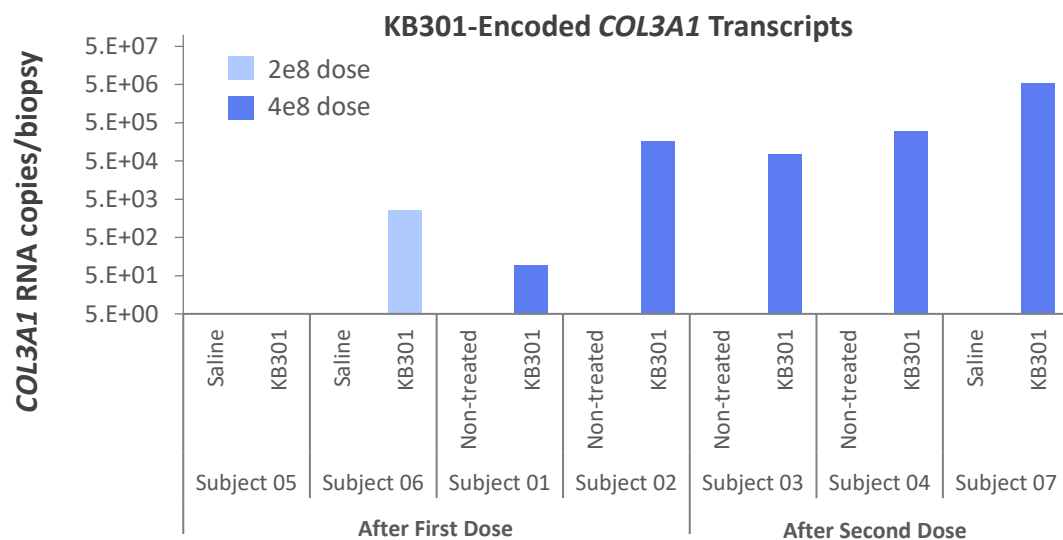


# KB301 Phase 1 Cohorts 1 and 2

Safety, gene delivery, and early signs of efficacy and durability all established

## Phase 1 Cohort 1<sup>1</sup>

- Open label, dose ranging study designed to evaluate safety and gene delivery after repeat (Day 0, Day 30) intradermal injections to buttocks (1e8, 2e8, 4e8 PFU)
- **Safety:** Repeated intradermal injections of KB301 were well-tolerated; adverse events were transient, mild to moderate injection site or biopsy site reactions
- **Delivery:** KB301-encoded *COL3A1* expression measurable at the mid and high dose; expression was evident by day 2 following the first dose



## Phase 1 Cohort 2<sup>2,3</sup>

- Evaluated safety and preliminary efficacy of low and high dose KB301 injections to upper / lower cheeks and knees, injection sites (n = 54) randomized 2:1
- **Safety:** Repeat administration of KB301 well-tolerated across subjects with minimal injection site reactions, all of which resolved within 3-5 days
- **Efficacy:** Treatment with KB301 associated with improved subject satisfaction scores across all three areas compared to placebo
- **Durability:** Subset of lower cheek injection sites (n = 13) followed up out to 9 months; both subject satisfaction and investigator assessments show benefit sustained up to 9 months after last dose

### Representative Durability Result



1. Krishnan S et al., Society for Investigative Dermatology Annual Meeting 2021; 2. Guide S. American Academy of Dermatology Annual Meeting 2022; 3. Krystal Biotech. Data on file

*COL3A1*, collagen type III alpha 1 chain; PFU, plaque forming unit

Other than VYJUVEK, all products described in this presentation are investigational therapies

# Ongoing KB301 Phase 1 Cohorts 3 and 4

First evaluation of efficacy in two potential indications for which there are no approved aesthetic injectables

## Targeting Indications Underserved by Existing Products

- Improvement of LCL at rest is overwhelmingly sought by subjects and physicians and wrinkling in the décolleté area is a well-known issue for women
- There are currently **no** FDA-approved injectable aesthetic drugs for either indication
- Commercially available injectables do not address the unique complexity of aged, thin and delicate skin next to the eyes and in the décolleté area
  - **Neurotoxins:** Indicated for treatment of dynamic but not static LCL and no indication in the décolleté
  - **Fillers:** Not well suited for the fine, delicate skin in either location
- Phase 1 Cohorts 3 and 4 underway to evaluate safety and preliminary efficacy of KB301 and inform Phase 2 indication selection and design

## Phase 1 Cohort 3 & 4 Design

- Open-label studies enrolling up to 20 subjects
- Subjects receive KB301 treatments, administered bilaterally to the lateral canthal regions or the décolleté area on Days 0, 7, and 14
- Subjects return for a monthly follow up for three months
- Primary endpoint will be safety and tolerability, and both investigator and subject will assess aesthetic improvement

**Top Line Data Expected 3Q 2024**





Developing Genetic Medicines to Treat Diseases with High Unmet Medical Needs