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): **August 14, 2019**

IVERIC bio, Inc.
(Exact Name of Registrant as Specified in its Charter)

Delaware	**001-36080**	**20-8185347**
(State or Other Jurisdiction of Incorporation)	(Commission File Number)	(IRS Employer Identification No.)

One Penn Plaza, 35th Floor
New York, NY 10119
(Address of Principal Executive Offices) (Zip Code)

Registrant's telephone number, including area code: **(212) 845-8200**

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 (*see* General Instruction A.2. below):

o Written communications pursuant to Rule 425 under the Securities Act (17 CFR 230.425)
o Soliciting material pursuant to Rule 14a-12 under the Exchange Act (17 CFR 240.14a-12)
o Pre-commencement communications pursuant to Rule 14d-2(b) under the Exchange Act (17 CFR 240.14d-2(b))
o 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, $0.001 par value per share	ISEE	The 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 o

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. o

Item 7.01. Regulation FD.

On August 14, 2019, IVERIC bio, Inc. (the "Company") posted a corporate presentation to its website at https://investors.ivericbio.com/events-and-presentation. A copy of the corporate presentation is furnished as Exhibit 99.1 to this Current Report on Form 8-K and is incorporated herein by reference.

The information in this Item 7.01 of this Form 8-K (including Exhibit 99.1) shall not be deemed "filed" for purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section, nor shall it be deemed incorporated by reference in any filing under the Securities Act of 1933, as amended, or the Exchange Act, except as expressly set forth by specific reference in such a filing. The furnishing of this information hereby shall not be deemed an admission as to the materiality of any such information.

Item 8.01. Other Information.

The Company reaffirms its previous estimate that its year-end 2019 cash and cash equivalents will range between $80 million and $85 million. The Company believes that its cash and cash equivalents will be sufficient to fund its operations and capital expenditure requirements as currently planned through the end of 2021. These estimates are based on the Company's current business plan, including the continuation of its current research and development programs. These estimates do not reflect any additional expenditures, including associated development costs, in the event the Company in-licenses or acquires any new product candidates or commences any new sponsored research programs. The Company may have based these estimates on assumptions that may prove to be wrong, and it could use its available capital resources sooner than it currently expects.

Item 9.01. Financial Statements and Exhibits

(d) Exhibits:

The following Exhibit relating to Item 7.01 shall be deemed to be furnished, and not filed:

99.1 IVERIC bio, Inc. Corporate Presentation dated August 2019

Cautionary Note Regarding Forward Looking Statements

Any statements in this Current Report on Form 8-K, including Exhibit 99.1 (the "Form 8-K") about the Company's future expectations, plans and prospects constitute forward-looking statements for purposes of the safe harbor provisions under the Private Securities Litigation Reform Act of 1995. Forward-looking statements include any statements about the Company's strategy, future operations and future expectations and plans and prospects for the Company, and any other statements containing the words "anticipate," "believe," "estimate," "expect," "intend", "goal," "may", "might," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue," and similar expressions. In this Form 8-K, the Company's forward looking statements include statements about the implementation of its strategic plan, including its focus on developing gene therapies for orphan inherited retinal diseases, the projected use of cash and cash balances, the timing, progress and results of clinical trials and other research and development activities, the potential utility of its product candidates, and the potential for its business development strategy, including its collaborative gene therapy sponsored research programs and any potential in-license or acquisition opportunities. Such forward-looking statements involve substantial risks and uncertainties that could cause the Company's development programs, future results, performance or achievements to differ significantly from those expressed or implied by the forward-looking statements. Such risks and uncertainties include, among others, those related to the initiation and the progress of research and development programs and clinical trials, availability of data from these programs, reliance on university collaborators and other third parties, establishment of manufacturing capabilities, expectations for regulatory matters, need for additional financing and negotiation and consummation of in-license and/or acquisition transactions and other factors discussed in the "Risk Factors" section contained in the quarterly and annual reports that the Company files with the Securities and Exchange Commission. Any forward-looking statements represent the Company's views only as of the date of this Form 8-K. The Company anticipates that subsequent events and developments will cause its views to change. While the Company may elect to update these forward-looking statements at some point in the future, the Company specifically disclaims any obligation to do so except as required by law.

SIGNATURES

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

IVERIC bio, Inc.

Date: August 14, 2019

By: /s/ David F. Carroll

David F. Carroll

Senior Vice President, Chief Financial Officer and Treasurer

NASDAQ: ISEE

August

Forward-looking Statements

Any statements in this presentation about IVERIC bio's future expectations, plans and prospects constitute forward-looking statements for purposes of the safe harbor provisions under the Private Securities Litigation Reform Act of 1995. Forward-looking statements include any statements about IVERIC bio's strategy, future operations and future expectations and plans and prospects for IVERIC bio, and any other statements containing the words "anticipate," "believe," "estimate," "expect," "intend", "goal," "may", "might," "plan," "predict," "project," "target," "potential," "will," "would," "could," "should," "continue," and similar expressions. I this presentation, IVERIC bio's forward-looking statements include statements about the implementation of it strategic plan, including its focus on developing gene therapies for orphan inherited retinal diseases, the projected use of cash and cash balances, the timing, progress and results of clinical trials and other research and development activities, the potential utility of its product candidates, and the potential for its business development strategy, including its collaborative gene therapy research programs and any potential in-licens or acquisition opportunities. Such forward-looking statements involve substantial risks and uncertainties that could cause IVERIC bio's preclinical and clinical development programs, future results, performance or achievements to differ significantly from those expressed or implied by the forward-looking statements. Such risks and uncertainties include, among others, those related to the initiation and the progress of research and development programs and clinical trials, availability of data from these programs, reliance on university collaborators and other third parties, establishment of manufacturing capabilities, expectations for regulatory matters, need for additional financing and negotiation and consummation of in-license and/or acquisition transactions and other factors discussed in the "Risk Factors" section contained in the quarterly and annual reports that IVERIC bio files with the Securities and Exchange Commission. Any forward-looking statements represent IVERIC bio's views only as of the date of this presentation. IVERIC bio anticipates that subsequent events and developments will cause its views to change. While IVERIC bio may elect to update these forward-looking statements at some point in the future, IVERIC bio specifically disclaims any obligation to do so except as required by law.

IVERIC bio

A leader in developing transformative gene therapy treatments for patients with orphan inherited retinal diseases

Well-positioned as a Leader in Orphan Inherited Retinal Disease Gene Therapy

- Compelling Science
  - Clear rationale for product constructs & strong pre-clinical animal data
- High Unmet Medical Need & Potential Best-in-Class
- Significant Commercial Opportunity
  - Program criteria: large epidemiology, unmet medical need, first and/or best-in-class
- Execution Focused
  - Gene therapy programs progressing toward INDs in 2020 and 2021 (IC-100 & IC-2
  - Collaborations with leading academic gene therapy centers – UPenn, UMass, UFlorida
  - Strategic manufacturing relationship with Catalent's Paragon Gene Therapy
  - Manufacturing for lead product candidates underway and GMP slots secured
  - Continuing to evaluate additional BD opportunities
- Strong Cash Position and Well-Capitalized
  - 6/30/19: ~$107 million cash; estimated YE'19 cash of $80 million - $85 million*
  - Cash runway through end of 2021*

*Estimate as of August 14, 2019; based on current business plan and excludes any potential business development activities or any other changes to the Company's current R&D

Strong Senior Management with Significant Executi Experience and Domain Expertise in Retina

Key Management	Experience
Glenn Sblendorio *Chief Executive Officer*	The Medicines Company; eyetech; Roche; MPM
Kourous A. Rezaei, MD *Chief Medical Officer*	Rush University Medical Center; Illinois Retina Associates, S.C.; University of Cologne; KRESG INSTIT
David F. Carroll *Chief Financial Officer*	The Medicines Company; Genentech, A Member of the Roche Group; Novartis; Bristol-Myers
Keith Westby *Chief Operating Officer*	Pharmasset; eyetech; Tunnell Consulting, Stronger Performance Ahead®; Roche; Pf
Evelyn Harrison *Chief Clinical Operations Officer*	eyetech; Roche
Ramil Latypov, PhD *Head of CMC Gene Therapy*	Sanofi Genzyme; Amgen
Jennifer LeCouter, PhD *Director of Research*	Genentech, A Member of the Roche Group
Vishal Kapoor *Chief Business Officer*	NPS Pharma; Genentech, A Member of the Roche Group; Pfizer

IVERIC bio Gene Therapy Pipeline

Goal: Broadest and deepest inherited retinal disease portfolio

AAV Gene Therapy

Indication	Research	Pre-clin.	Phase 1/2	Phase 3	Planned Milestones
IC-100: RHO-adRP (AAV5)					• Phase 1/2: plan to initiate **2H 20**
IC-200: *BEST1*-Related IRDs (AAV2)					• Phase 1/2: plan to initiate **1H 20**
miniCEP290: LCA10					• Research results: expected in **20**
miniABCA4: STGD1					• Research results: expected in **20**
miniUSH2A: *USH2A*-related IRDs					• Recently commenced*
AAV Gene Delivery Technology					• Research results: expected in **20**

*We have an option to exclusively in-license intellectual property resulting from ongoing sponsored research.

- Compelling Science
- High Unmet Medical Need & Potential Best-in-Class
- Significant Orphan Patient Populations

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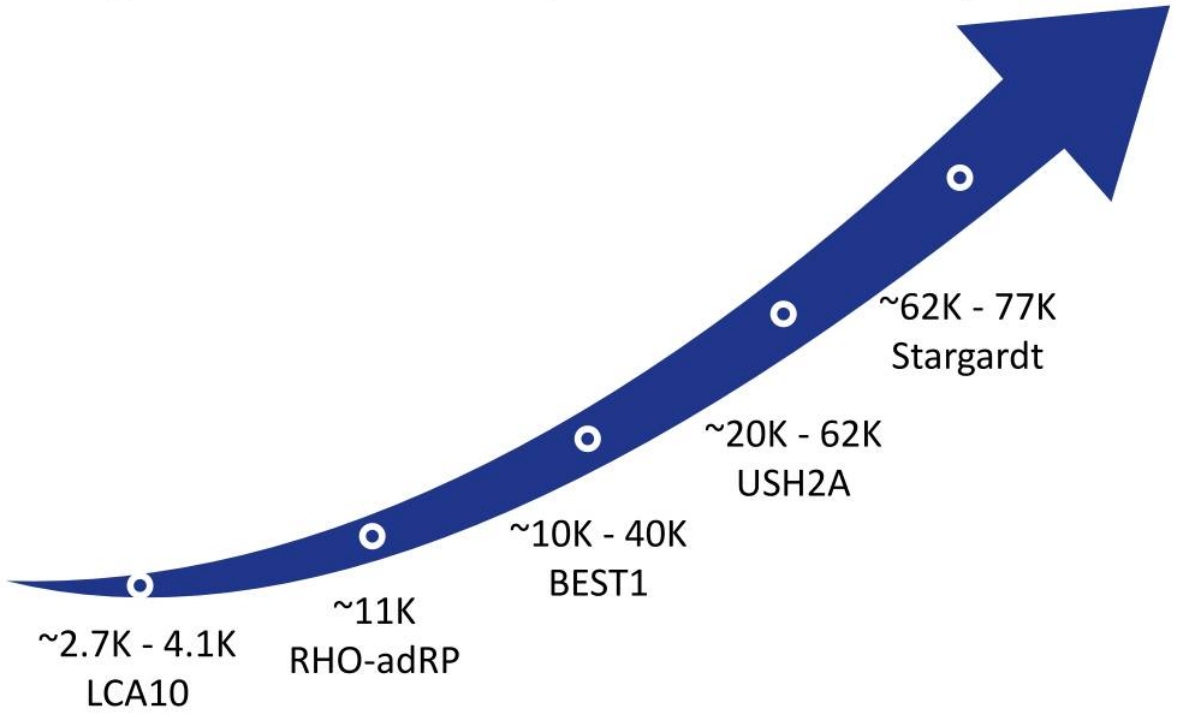
Patient Populations for Orphan IRDs[1]

Portfolio of Programs has multi-billion $ cumulative net sales potential[2]



[1] Estimated combined patient populations in US and EU5 for each indication based on published literature:
RHO-adRP estimate based on data from Arch Ophthalmology 2007 Feb; 125(2): 151–158./ BEST1-related estimate based on data from Ophthalmic Genet. 2017 ; 38(2): 143–147. doi:10.1080/13816810.2016.1175645 / LCA10 estimate based o
various sources including Genetics Home Reference; Am J Hum Genet 2006 Sep; 79(3) 556-561; Gene Reviews, Leber Congenital Amaurosis, Last update May 2, 2013; Human Mutation, Mutation in Brief #956(2007) / Stargardt data from Nationa
Genetics Home Reference and Progstar Natural History Study / USH2A estimates based on data from Experimental Eye Research Vol 79, Issue 2, Aug 2004: 167-173.

[2] Non risk-adjusted

IVERIC bio

Scientific Collaborations: Leading Academic Gene Therapy Centers

Penn
University of Pennsylvania

UF University of Florida

iVERIC bio

University of Massachusetts Medical School
UMASS

Horae (红瑞) Gene Therapy Center

Manufacturing Strategy

- Strategic Manufacturing Relationship with Catalent's Paragon Gene Therapy
  - Proven expertise in gene therapy manufacturing
  - World-class and state-of-the-art GMP gene therapy biomanufacturing capabilities
- Paragon collaboration includes process development and manufacturing of both IC-100 and IC-200
  - IND-enabling toxicology study material
  - GMP-grade AAV vector for Phase 1/2 clinical studies
- Aldevron contracted for supply of plasmids (critical starting material)

PARAGON BIOSERVICES

aldevron®

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Rhodopsin-Mediated Autosomal Dominant Retinitis Pigmentosa

IC-100: scAAV2/5-H1p-*shRNA820* -hOP-*RHO820*

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IC-100: RHO-adRP Phase 1/2 Planned to Initiate in 2H 202

- Significant Commercial Opportunity
  - Estimated prevalence: ~11K in the US & EU5 combined[1]
  - High unmet need: Bilateral degeneration of rod and cone photoreceptors, leading to night blindness and progressive visual impairment
  - Potentially first-in-class and best-in-class:
    - Lead gene therapy product candidate
    - Mutation independent approach compared to gene editing or RNA
- Compelling Science
  - Proof-of-concept in two animal models (canine and mouse)
    - Long-term preservation of retinal structure and function ~ 9 months
  - Knockdown and replacement with a single AAV vector
- Clear Path to IND Submission in 2020
  - Completed: Pre-IND FDA meeting and process development at Paragon
  - Ongoing: Natural History studies
  - Next Steps: IND-enabling tox studies and GMP production (slots secured at Paragon)

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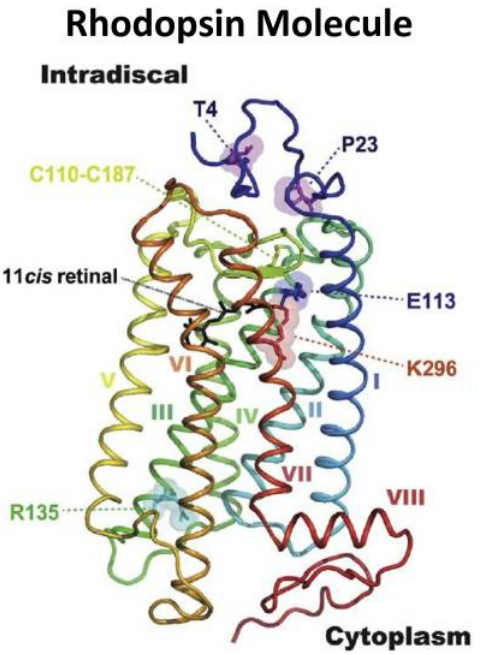
[1]RHO-adRP estimate based on data from *Arch Ophthalmol*ogy 2007 Feb; 125(2): 151–158.

Rhodopsin-Mediated Autosomal Dominant Retinitis Pigmento

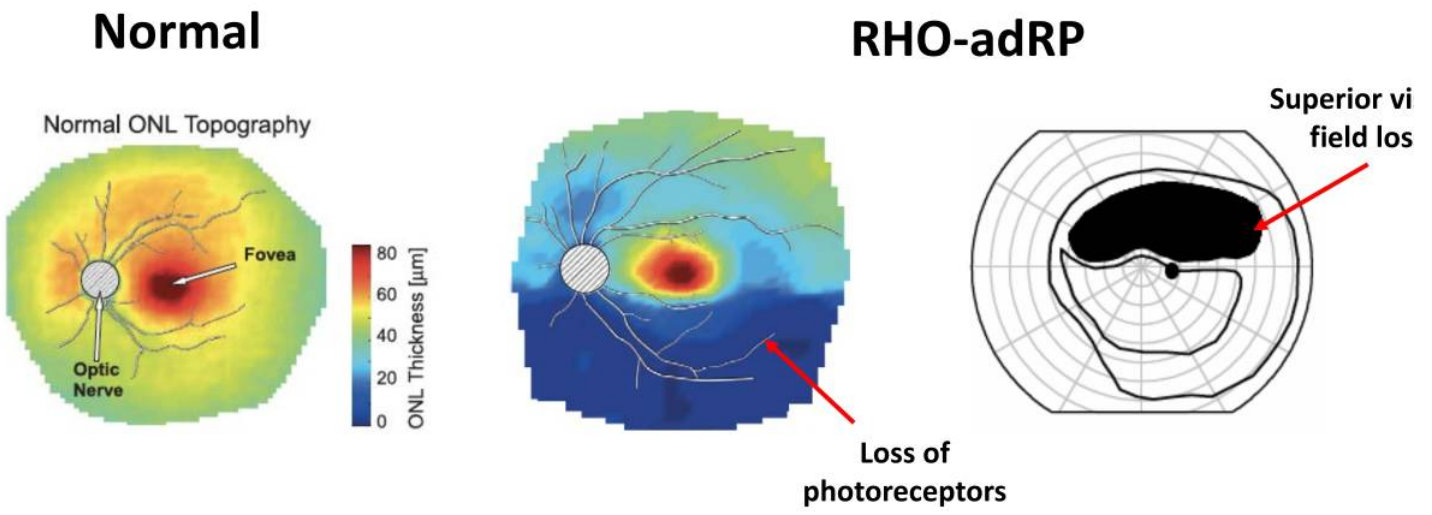
- Retinitis pigmentosa (RP): most prevalent inherited retinal dystrophy
- Bilateral degeneration of rod and cone photoreceptors that ultimately leads to night blindness and progressive visual impairment
- adRP: The most common autosomal dominant retinal disease
- More than 150 identified rhodopsin gene (RHO) mutations
- The mutant rhodopsin protein is toxic



Source: Prog Retin Eye Res 2018; 62:1-23. Estimate based on data from Arch Ophthalmology 2007 Feb; 125(2): 151–158.

ADRP Caused by RHO Mutation

- Phenotypic feature in a patient with RHO mutation showing inferior photoreceptor degeneration corresponding to superior visual field loss



Source: Invest Ophthalmol Vis Sci. 2016;57:4847–4858.

Rhodopsin-Mediated Autosomal Dominant Retinitis Pigmentosa:
Proof of Concept in Mouse and Naturally Occurring Canine Models

Mutation-independent rhodopsin gene therapy by knockdown and replacement with a single AAV vector

Artur V. Cideciyan, Raghavi Sudharsan, Valérie L. Dufour, Michael T. Massengill, Simone Iwabe, Malgorzata Swider, Brianna Lisi, Alexander Sumaroka, Luis Felipe Marinho, Tatyana Appelbaum, Brian Rossmiller, William W. Hauswirth, Samuel G. Jacobson, Alfred S. Lewin, Gustavo D. Aguirre, and William A. Beltran

PNAS September 4, 2018 115 (36) E8547-E8556; first published August 20, 2018
https://doi.org/10.1073/pnas.1805055115
http://www.pnas.org/content/early/2018/08/14/1805055115

HUMAN GENE THERAPY 23:356–366 (April 2012)

DOI: 10.1089/hum.2011.213

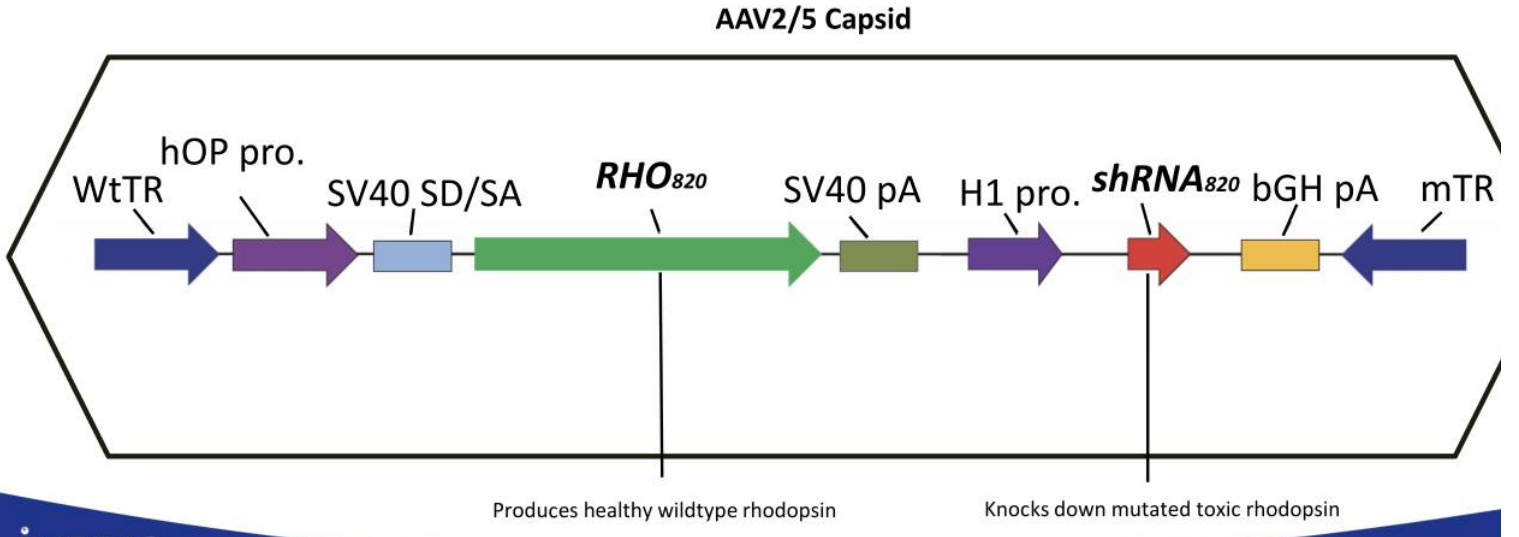
Long-Term Rescue of Retinal Structure and Function by Rhodopsin RNA Replacement with a Single Adeno-Associated Viral Vector in P23H *RHO* Transgenic Mice

Haoyu Mao,[1] Marina S. Gorbatyuk,[2] Brian Rossmiller,[1] William W. Hauswirth,[1,3] and Alfred S. Lewin[1]

https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3327607/

Vector Construct for IC-100 that is Used for: POC Canine and Planned GLP Tox and Clinical Studies

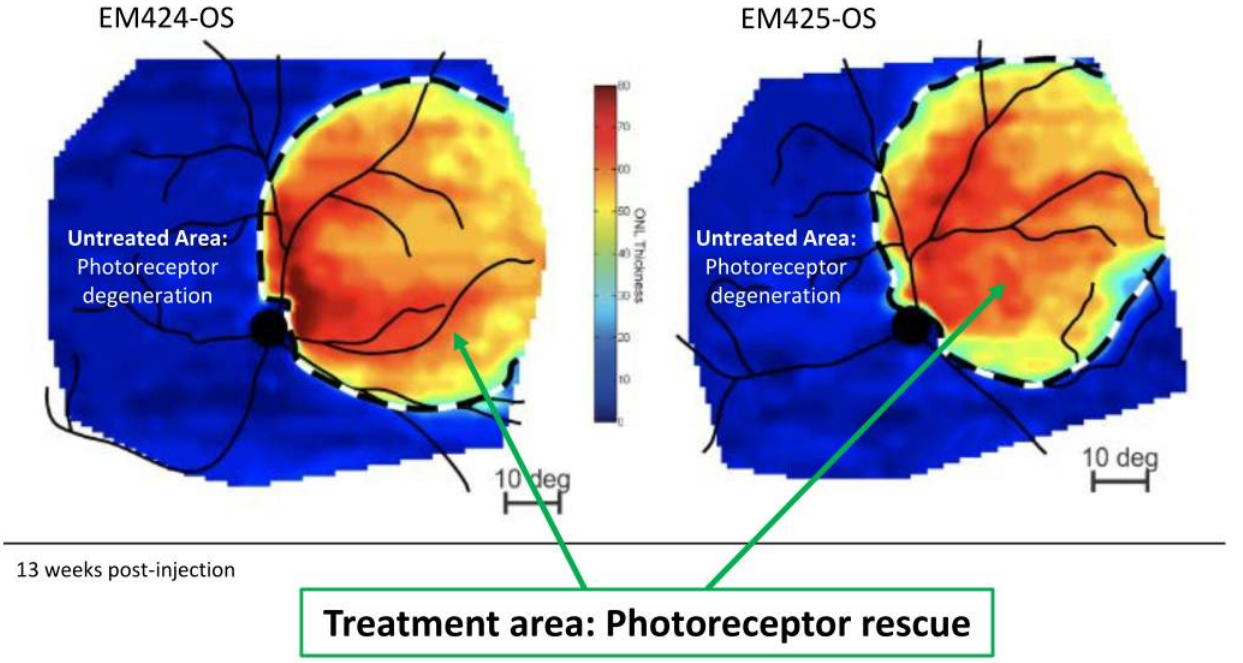
- Vector: AAV2/5 (serotype 5 capsid and type 2 terminal repeats (TRs))
- Construct: scAAV2/5-H1p-shRNA820-hOP-RHO820, human opsin promote
- Delivery: Single subretinal injection



Source: PNAS September 4, 2018 115 (36) E8547-E8556.

Canine Model Proof-of-Concept: Rescue in Naturally Occurring RHO Mu
Dogs heterozygous for T4R Mutant Allele ($RHO^{T4R/+}$)

scAAV2/5-H1p-*shRNA820* -hOP-*RHO820*



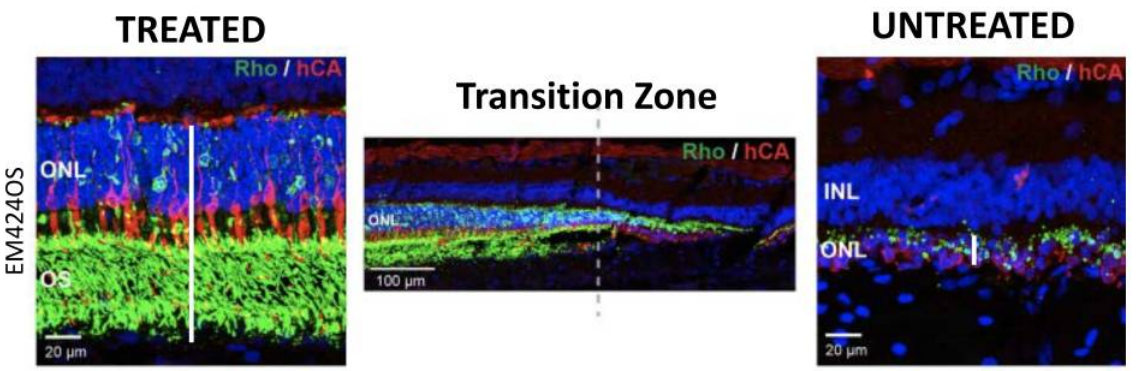
Source: PNAS September 4, 2018 115 (36) E8547-E8556.

Canine Model Proof-of-Concept:

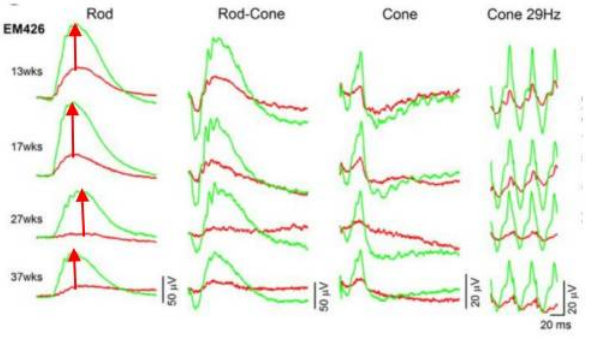
Histology - Preservation of Retinal Anatomy | ERG - Preservation of Retinal Func

scAAV2/5-H1p-*shRNA820* -hOP-*RHO820:* Rescued Outer Retina

Anatomy



Function (ERG)



Green: scAAV2/5-RHO820 -shRNA8
RED: Balanced Salt Solution (BSS)

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Source: PNAS September 4, 2018 115 (36) E8547-E8556.

IC-100: RHO-adRP Program Summary

- Potentially first in class and best-in-class
- No clinical stage gene therapy competition
- Mutation independent strategy
  - >150 identified rhodopsin gene (RHO) mutations
- Knockdown and replacement with a single AAV vector
  - Suppression of endogenous mutant toxic rhodopsin protein
  - Replace with healthy rhodopsin protein
- Proof-of-concept in two animal models (canine and mouse)
  - Naturally occurring canine disease model
  - Long-term preservation of retinal structure and function
- Clear path to IND submission
  - Completed: pre-IND FDA meeting
  - Ongoing: IND enabling activities and natural history studies
  - Paragon engaged as manufacturing partner; CMC strategy in place
- Phase 1/2 planned to initiate in 2H 2020

Sources: PNAS September 4, 2018 115 (36) E8547-E8556. HUMAN GENE THERAPY 23:356–366 (April 2012).

BEST1 Related Retinal Diseases

IC-200: AAV2-*BEST1*

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IC-200: BEST1 Phase 1/2 Planned to Initiate in 1H 2021

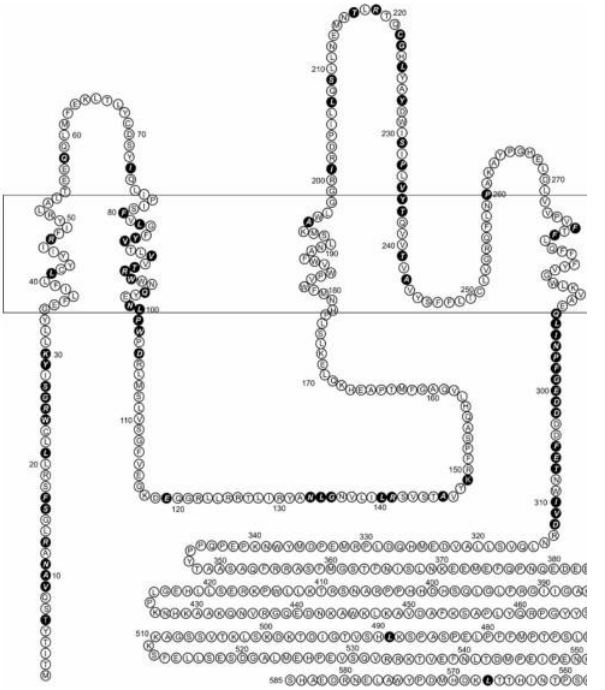
- Significant Commercial Opportunity
  - Estimated prevalence: ~10K - 40K in the US & EU5 combined[1]
  - High unmet need: Bilateral disease caused by mutations in the BEST1 gene, which leads to vitelliform lesion in macular region, macular atrophy and permanent loss of central vision
  - Potentially first in class and best-in-class:
    - Lead product candidate – no clinical competition currently
- Compelling Science
  - Proof of concept established in naturally occurring autosomal recessive canine model
    - Durable efficacy and safety ~ 4 years
- Clear Path to IND Submission in 1H 2021
  - Completed: Pre-IND FDA meeting
  - Ongoing: Process development at Paragon and Natural History studies
  - Next Steps: IND-enabling tox study and GMP production

[1]BEST1-related estimate based on data from Ophthalmic Genet. 2017 ; 38(2): 143–147. doi:10.1080/13816810.2016.1175645

BEST1 - Related Inherited Retinal Diseases

- BEST 1 is predominantly expressed in the retinal pigment epithelium (RPE)
- An integral membrane protein localized to the basolateral plasma membrane
- Over 200 mutations throughout the entire BEST1 gene have been reported
- Prevalence estimates range between ~10K and 40K in the US & EU5 combined based on published literature

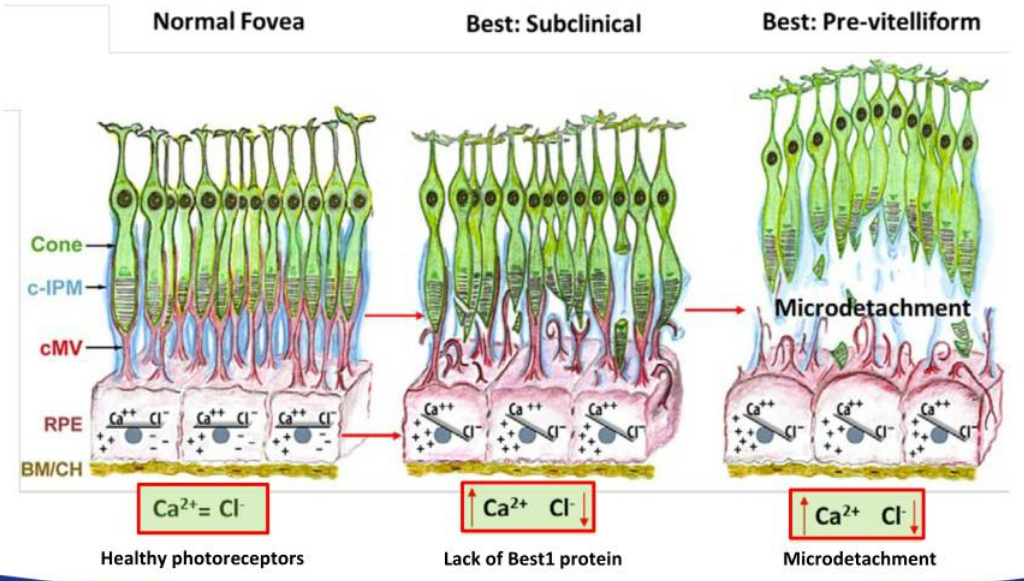
Model of Human Best1



Source: Invest. Ophthalmol. Vis. Sci.. 2007;48(10):4694-4705. PLoS ONE 2013; 8(10): e75666.

Best Disease (Best Vitelliform Macular Dystrophy)

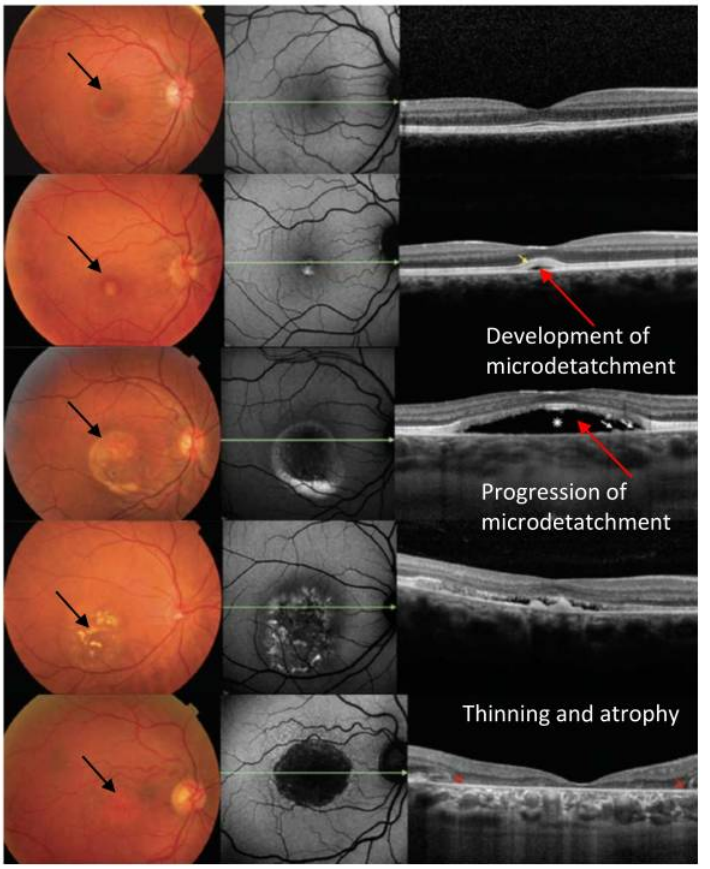
- An orphan inherited retinal disease caused by mutations in the BES gene, autosomal dominant, generally affecting both eyes
- Best1 protein helps regulate chloride ion traffic in retinal cells
- Dysregulation of intracellular Ca^{2+} and Cl^- leads to microdetatchmen



Sources: PNAS 2018,115(12): E2839-E2848; Progress in Retinal and Eye Research 2017,58: 70-88.

Best Disease (Best Vitelliform Macular Dystrophy)

Fundus **OCT**



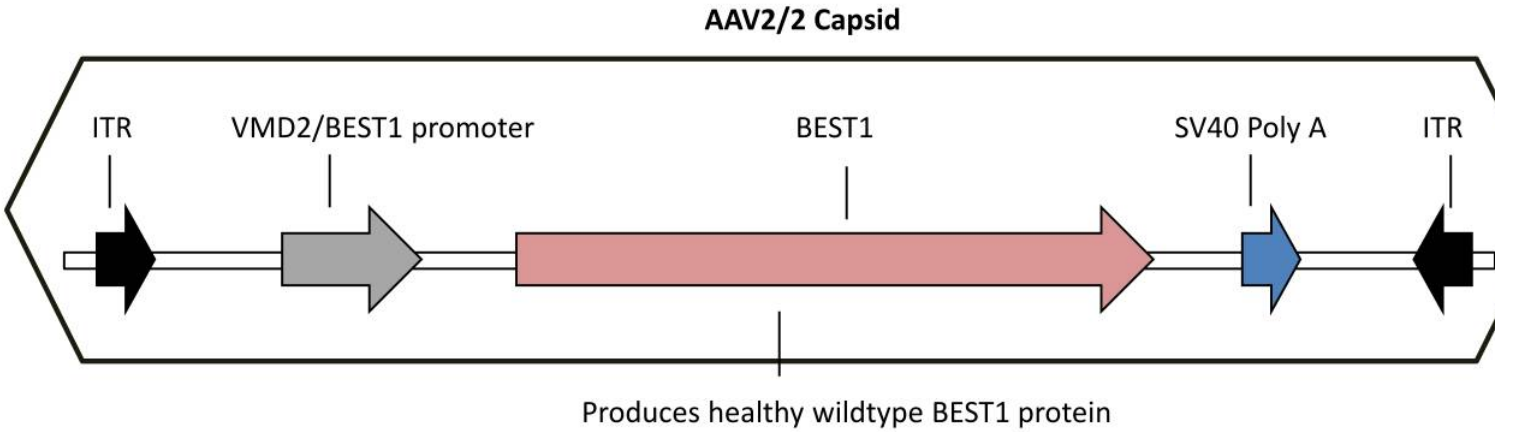
Disease Stages

1. **Subclinical Stage**
2. **Vitelliform Stage**
3. **Hypopyon stage**
4. **Vitelliruptive Stage**
5. **Macular Atrophy Stag**

Source: Retina 2018; 38:1041-1046.

IC-200: Vector Construct

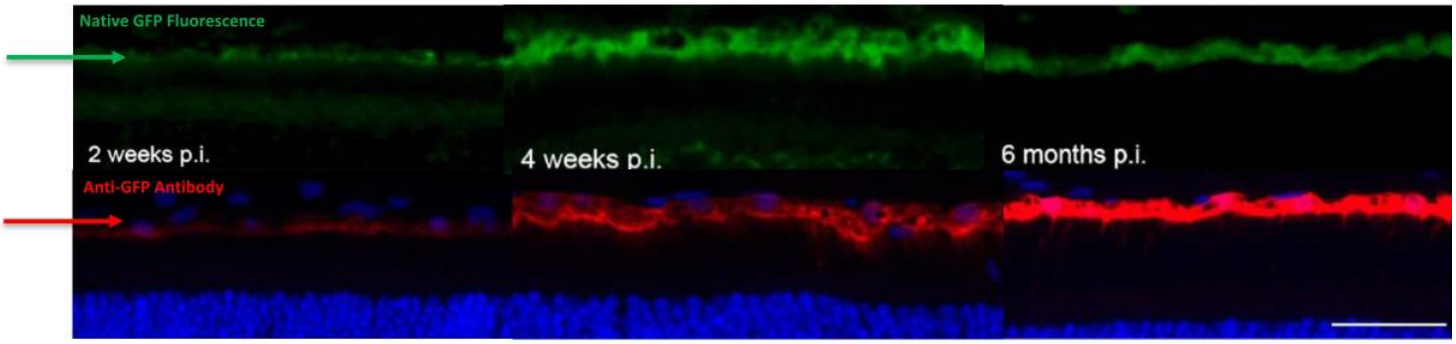
- Vector: AAV2/2 (serotype 2 capsid and type 2 terminal repeats (TRs))
- Construct: AAV2/2- BEST1, human VMD2 promoter
- Delivery: Single subretinal injection



Sources: PNAS 2018,115(12): E2839-E2848; Progress in Retinal and Eye Research 2017,58: 70-88.

AAV2 Vectors

- The most widely used AAV vector in pre-clinical and clinical trials targeting the RPE cells
- AAV2/2 vector serotype has been reported:
  - Safe
  - RPE - Specific
  - Stable
- AAV2 + hVMD2 (BEST1) promoter: specific + exclusive tropism for RPE cells



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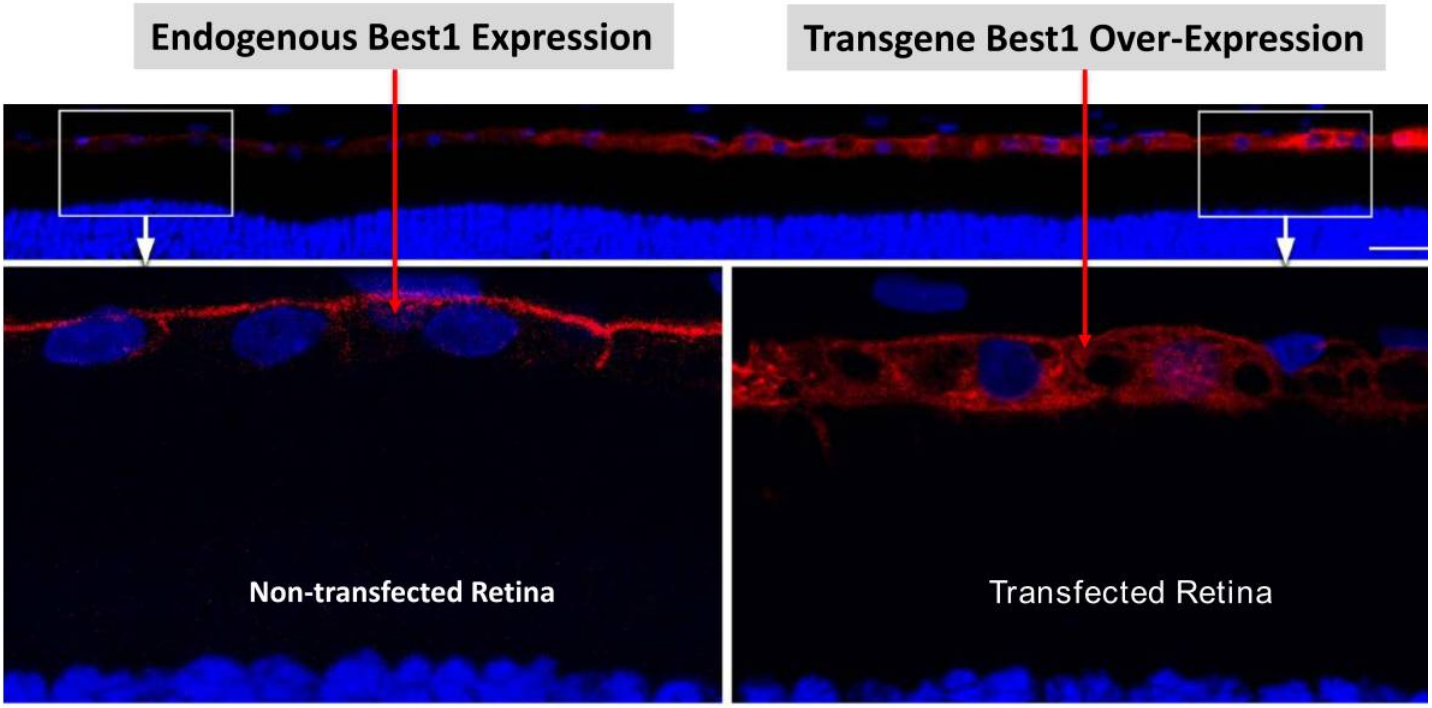
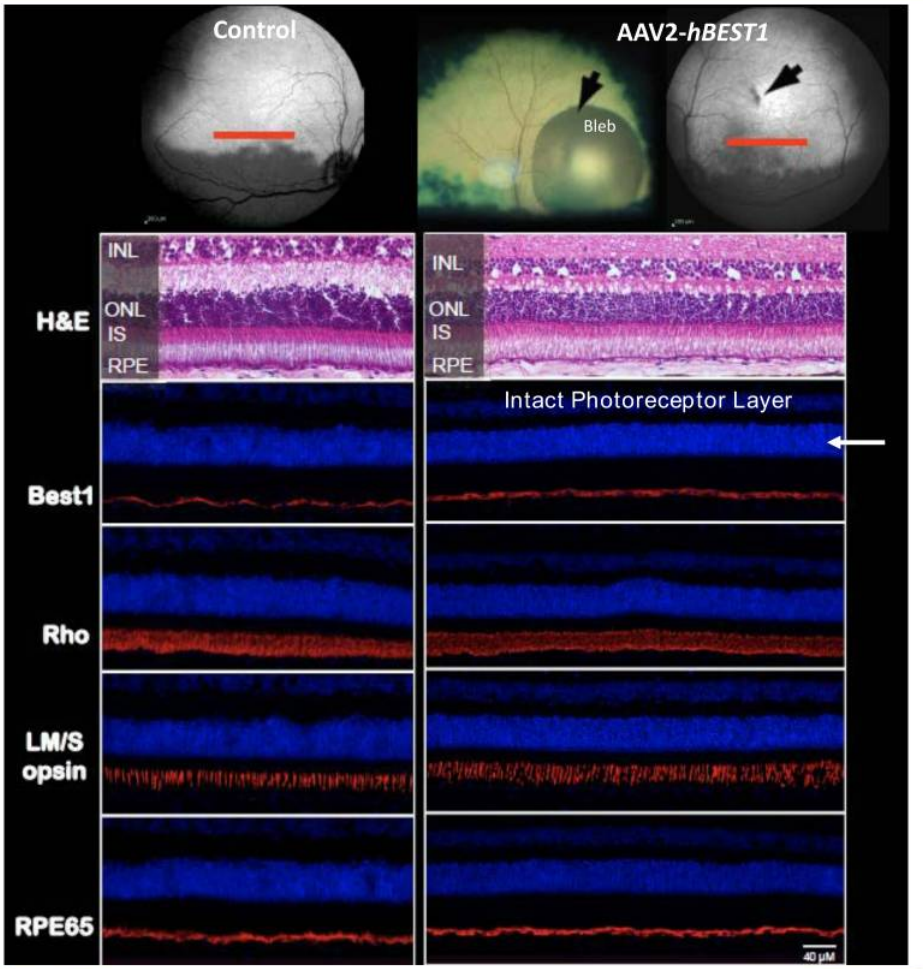
Source: PLoS One 2013;8:e75666.

Best1 Overexpression in Wild Type Canine RPE



Source: PLoS One 2013;8:e75666.

Best1 Overexpression Reported Safe in Wild Type Canine RPE



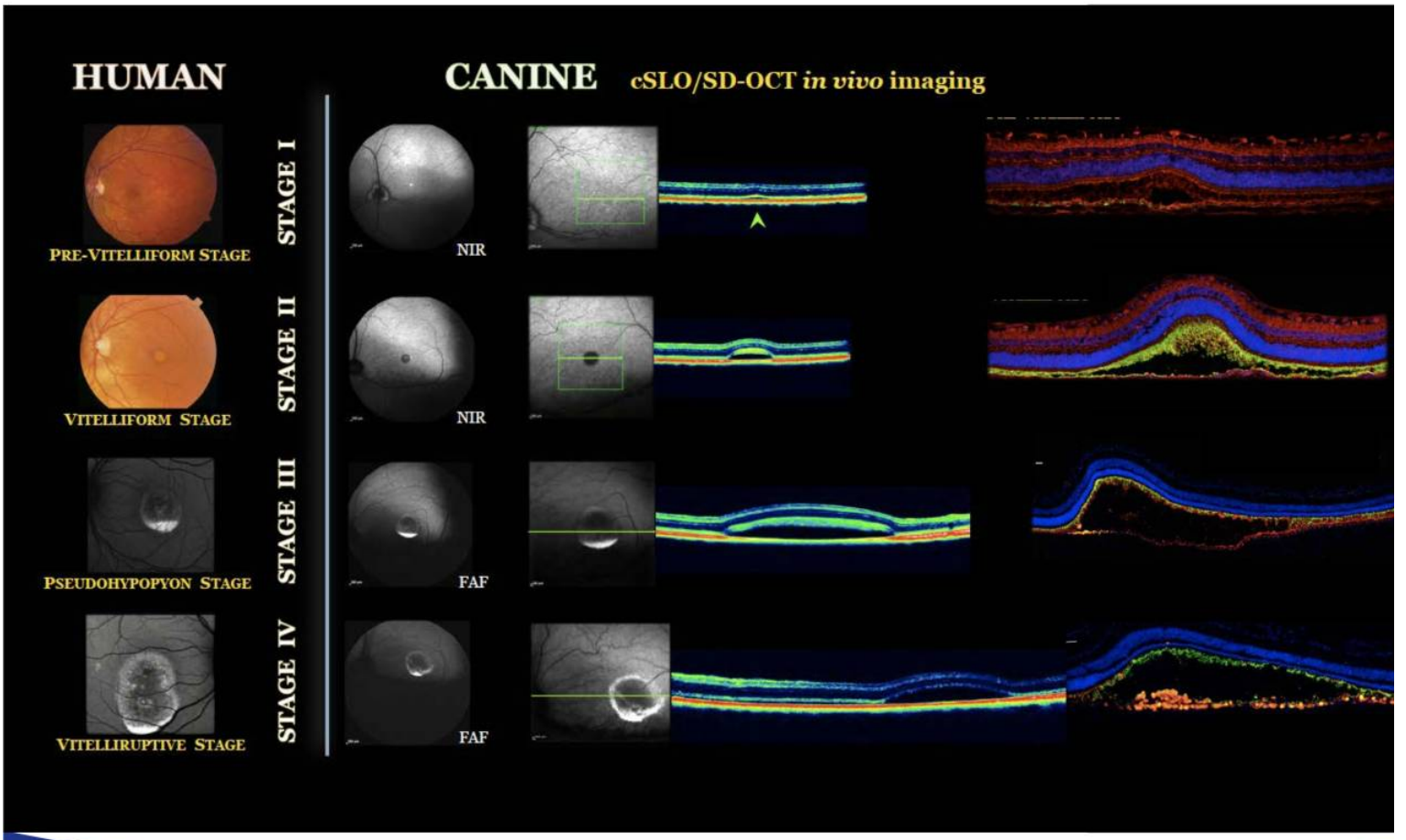
Sources: PLoS One 2013;8:e75666; Karina E. Guziewicz et al. University of Pennsylvania

Best1 Related Animal Model: Canine Multifocal Retinopathy (cmr)

- Spontaneous early-onset of disease
- Featuring the full spectrum of clinical and histologic features observe in BEST1-affected patients
- Caused by autosomal recessive mutations in BEST1 dog ortholog
- The 3 identified mutations model all major aspects of known disease associated mutations in man:
  - cmr1 ($C_{73}T/R_{25}X$): Early stop mutation, resulting in null phenotype
  - cmr2 ($G_{482}A/G_{161}D$): missense change, affecting protein folding and trafficking
  - cmr3 ($C_{1388}del/P_{463}fs$): frameshift mutation: truncating the bestrophin1 C-termi

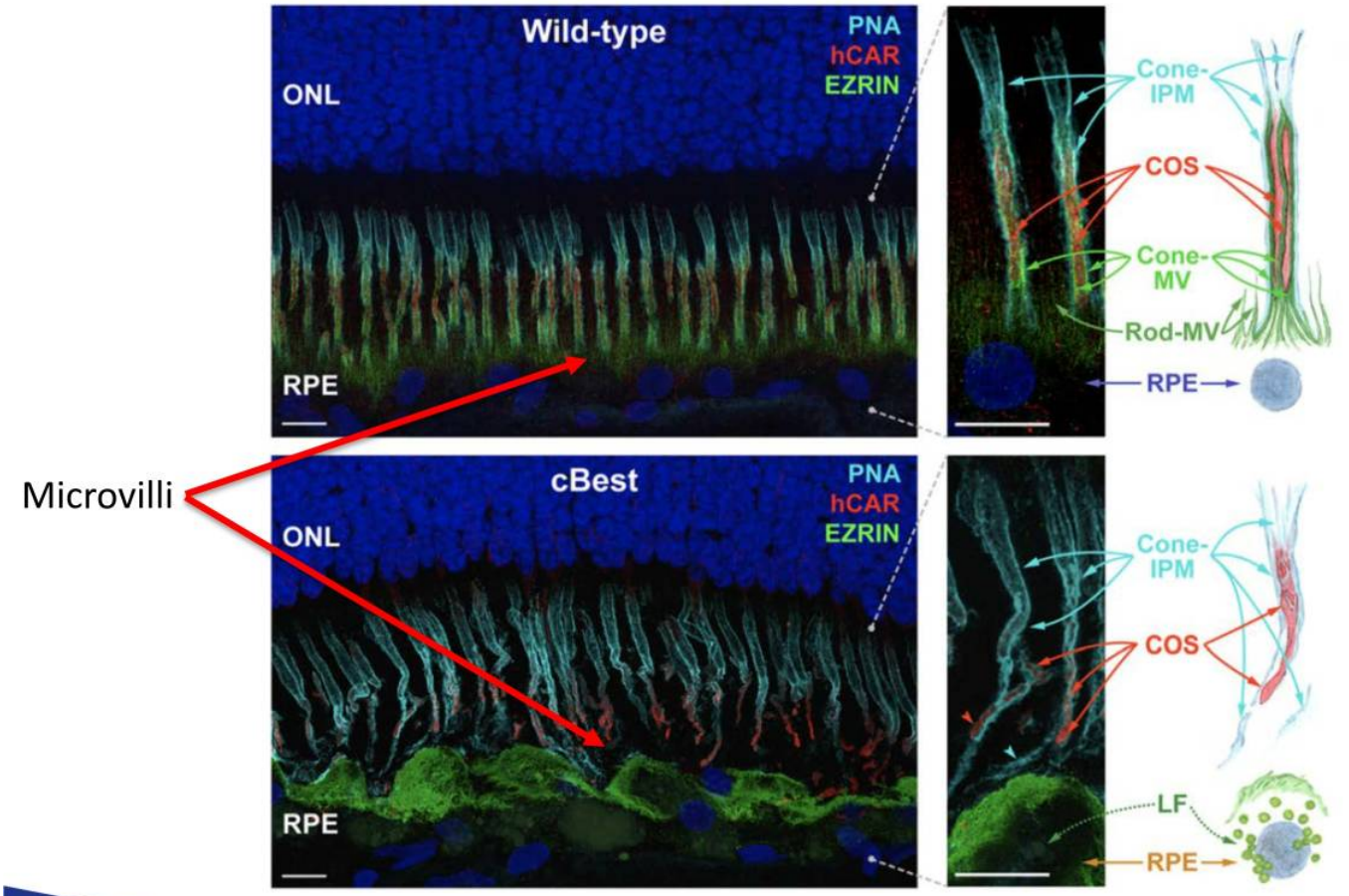
Source: PLoS One 2013;8:e75666.

Human Disease ~ Naturally Occurring Canine Model



Courtesy: Karina E. Guziewicz et al. University of Pennsylvania

BEST1 Mutation: Leads to Abnormal RPE Apical Microvilli



Source: Proc Natl Acad Sci U S A. 2018 Mar 20;115(12):E2839-E2848.

BEST1 Related Inherited Retinal Diseases

Proof of Concept in Naturally Occurring BEST1 Canine Model, 3 Different Mutat

PNAS

BEST1 gene therapy corrects a diffuse retina-wide microdetachment modulated by light exposure

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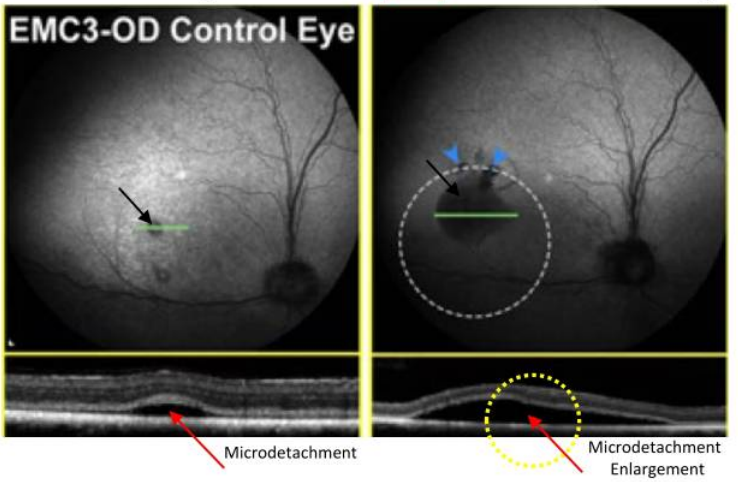
http://www.pnas.org/content/early/2018/02/28/1720662115

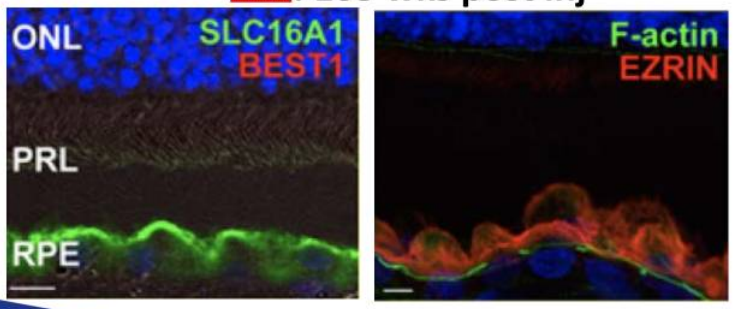
Canine Model Proof-of-Concept: Resolution of Retinal Microdetachment after AAV2-hBEST1 Gene Therapy

Control Injection with BSS

Before injection | **BSS: 87 wks post inj**

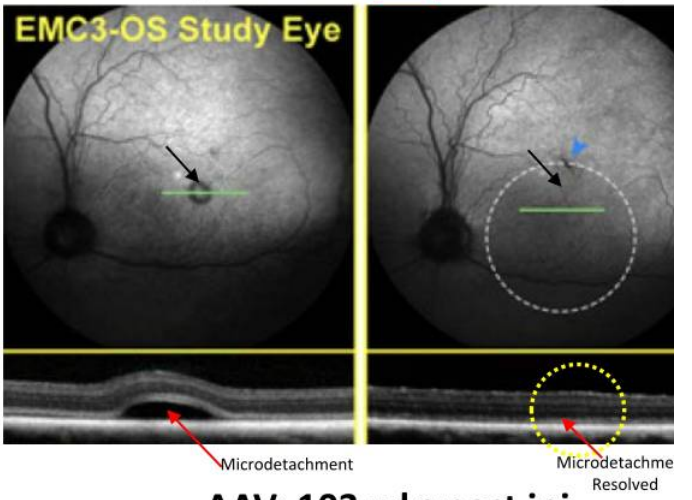


BSS: 103 wks post inj

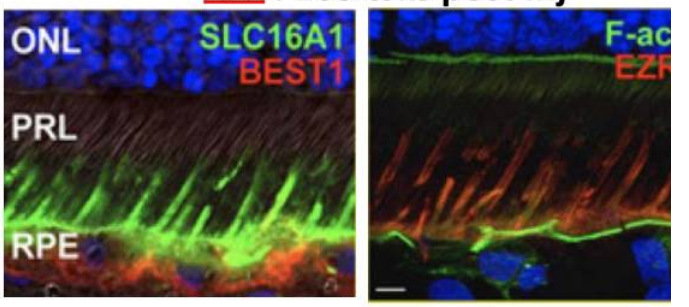


AAV Therapy with Human Transgene

Before injection | **AAV: 103 wks post**



AAV: 103 wks post inj



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Source: Proc Natl Acad Sci U S A. 2018 Mar 20;115(12):E2839-E2848.

IC-200: BEST1 Program Summary

- Potentially first in class and best-in-class
- No clinical stage competition currently
- Proof of concept established in the naturally occurring autosom recessive BEST1 canine model
  - 3 different mutations
  - Long-term preservation of retinal structure
- Clear path to IND submission
  - Completed: pre-IND FDA meeting
  - Ongoing: IND enabling activities and natural history studies
  - Paragon engaged as manufacturing partner (GMP slots secured); CMC strategy in place
- Phase 1/2 Planned to Initiate in 1H 2021

IVERIC bio

Sources: PNAS September 4, 2018 115 (36) E8547-E8556. HUMAN GENE THERAPY 23:356–366 (April 2012).

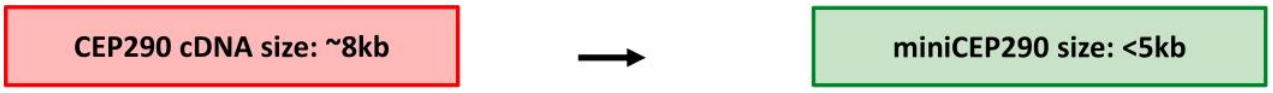
Minigene Programs

AAV Vectors Preferred for Ocular Gene Therapy

- FDA Approved (Luxturna®)
- Extensive experience with intraocular application in both humans ar animal models
- Well documented safety profile
- Tropism for retinal tissue
- Alternative technologies have inherent challenges (e.g. Lentivirus)
- Limited packaging capacity of < 5kb ➡ Minigene Strategy

The minigene solution:

Engineer AAV-amenable genes that encode functionally optimized protein



Current minigene Programs

- Leber Congenital Amaurosis (LCA10): miniCEP290
  - Estimated Prevalence: ~2.7K - 4.1K in US & EU5 combined
- Autosomal Recessive Stargardt Disease: miniABCA4
  - Estimated Prevalence: ~62K - 77K US & EU5 combined
- Usher Syndrome Type 2A & USH2A related nonsyndromatic Autosomal Recessive RP: miniUSH2A
  - Estimated Combined Prevalence: ~20K - 62K US & EU5 combined

LCA10 estimate based on data from various sources including Genetics Home Reference; *Am J Hum Genet* 2006 Sep; 79(3) 556-561; *Gene Reviews,* Leber Congenital Amaurosis, Last update May 2, 2013; *Human* Mutation in Brief #956(2007) / Stargardt estimate based on data from National Eye Institute, Genetics Home Reference and Progstar Natural History Study / *USH2A* estimates based on data from Experimental Research Vol 79, Issue 2, Aug 2004: 167-173. / USH2A estimate based on data from Experimental Eye Research 79 (2004):167-173. J R Soc Med 2006;99:189-191. https://nei.nih.gov/health/ushers/ushers. Otolo Neurology 2018; 40:121-129.

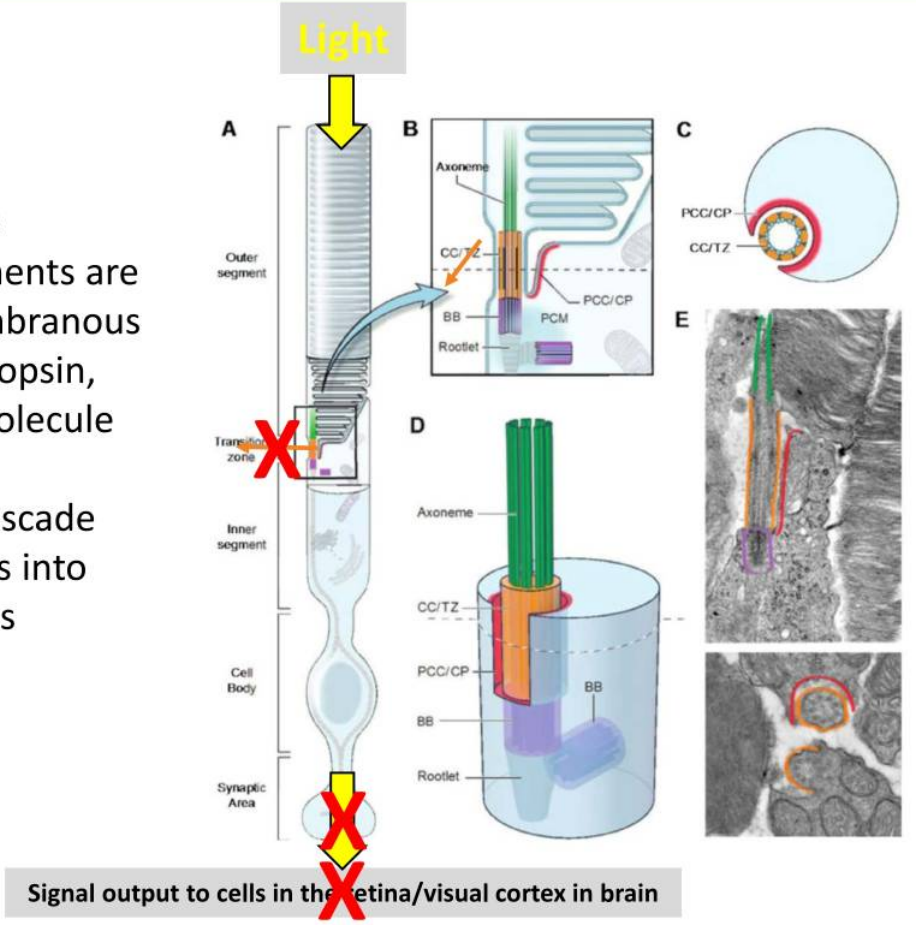
miniCEP290: LCA10 Potential Product Candidate

- Significant Commercial Opportunity
  - Estimated Prevalence: ~2.7K - 4.1K in US & EU5 combined[1]
  - High Unmet Need: most common cause of LCA with early onset vision loss
  - Potential for best-in-class: Mutation independent strategy compared to gene editing or RNA approaches
- Compelling Science
  - Proof-of-Concept in mouse shows preservation of retinal structure and function
- Converted option to WW exclusive license in July 2019
  - New encouraging results support the potential of minigene in LCA10
  - Next steps: Continue to optimize constructs with the goal of identifying a lead product candidate

[1]LCA10 estimate based on data from various sources including Genetics Home Reference; Am J Hum Genet 2006 Sep; 79(3) 556-561; Gene Reviews, Leber Congenital Amaurosis, Last update May 2, 2013; Human Mutation, Mutation in Brief #956(2007)

CEP290 in Leber Congenital Amaurosis Type 10

Photoreceptor:
The outer segments are filled with membranous discs with rhodopsin, the receptor molecule that initiates a transduction cascade turning photons into electrical signals

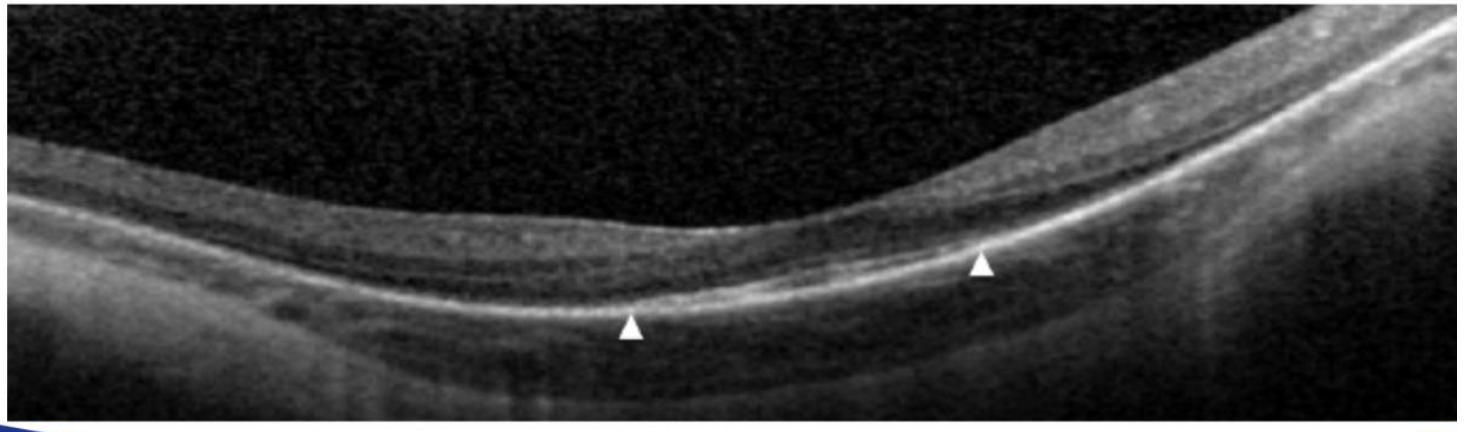


Signal output to cells in the retina/visual cortex in brain

Source: Cilia. 2012 Dec 3;1(1):22.

Leber Congenital Amaurosis Type 10 (CEP290)

- CEP290 mutations: one of the most common causes of LCA
- Estimated prevalence: ~2.7K - 4.1K in the US & EU5 combined base on published literature
- Early onset vision loss
- Preserved outer retinal structure in the foveal area
- Extinguished Electroretinogram



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Source: Ophthalmology 2018 Feb 2. pii: S0161-6420(17)32529-0. doi: 10.1016/j.ophtha.2017.12.013.

miniCEP290: Leber Congenital Amaurosis (CEP290): Preliminary Proof-of-Concept in a Mouse Model of LCA (CEP29

Human Gene Therapy, Vol. 29, No. 1 | Research Articles

Gene Therapy Using a *miniCEP290* Fragment Delays Photoreceptor Degeneration in a Mouse Model of Leber Congenital Amaurosis

Wei Zhang,[1] Linjing Li,[1] Qin Su,[2] Guangping Gao,[2] and Hemant Khanna[1,2,]

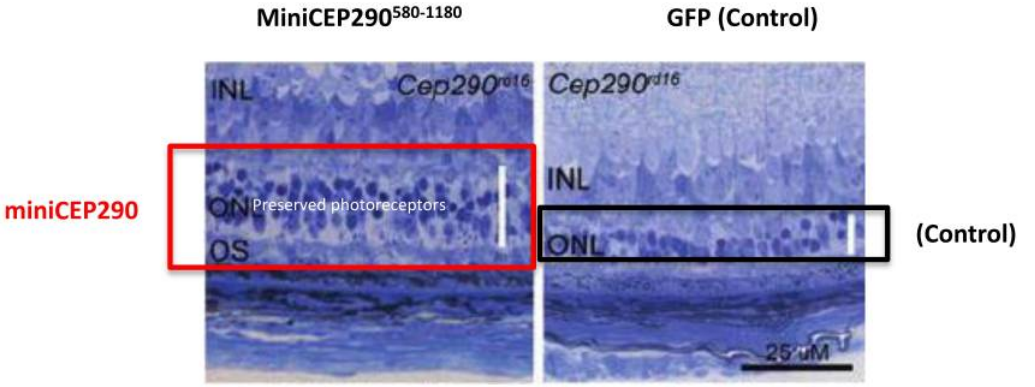
[1]Department of Ophthalmology and [2]Horae Gene Therapy Center, UMASS Medical School, Worcester, Massachusetts

Published Online: 1 Jan 2018 | https://doi.org/10.1089/hum.2017.049

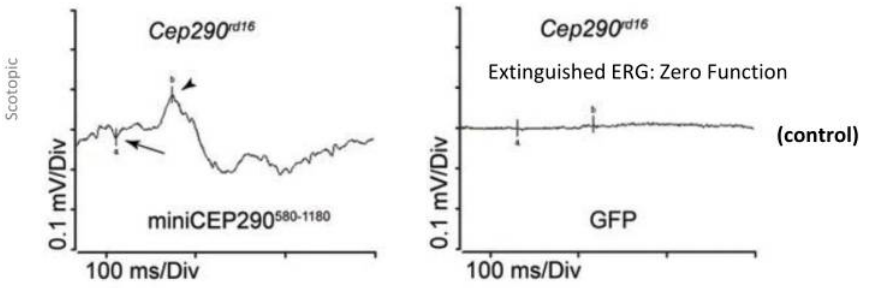
http://doi.org/10.1089/hum.2017.049

miniCEP290: LCA10 Preliminary Proof-of-Concep

- Preliminary proof-of-concept shown in mouse model → ongoing sponsored research to optimize and select lead product candidate



8 x 10^9 vg/µl into the subretinal space of *Cep290^{rd16}* mouse pups (P0/P1), Week 3



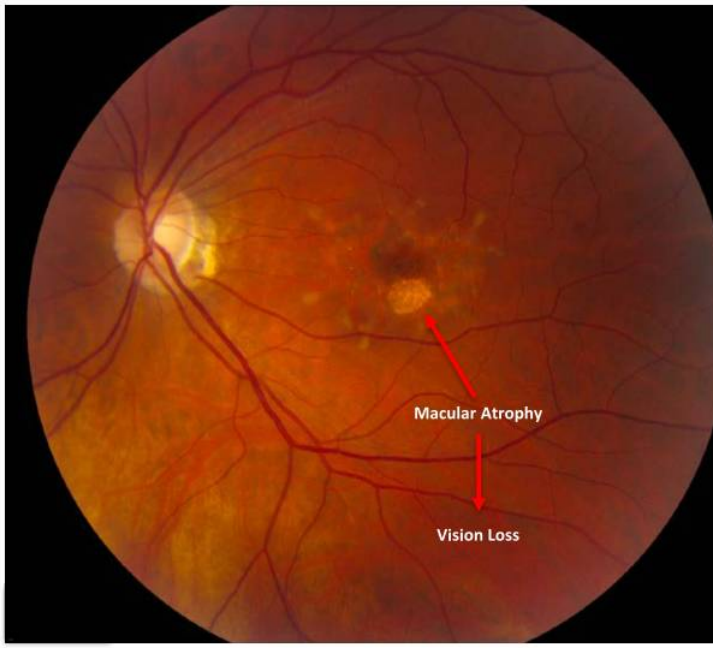
Source: Hum Gene Ther. 2018 Jan;29(1):42-50.

miniCEP290: LCA10 Potential Product Candidate

- Potentially best-in-class
- Mutation independent strategy
- Replacement of the mutated gene with a novel miniCEP290 in AAV
- Preliminary proof-of-concept in mouse model
  - Preservation of retinal structure and function

Autosomal Recessive Stargardt Disease (ABCA4)

- The most common inherited macular dystrophy in both children and adults
- Prevalence estimates range between ~62K - 77K in US & EU5 combined
- ABCA4 gene makes a protein that helps clearing away visual cycle byproducts inside retinal cells
- ABCA4 mutation leads to accumulation of visual cycle byproducts causing retinal cell degeneration and vision loss



Stargardt data from National Eye Institute, Genetics Home Reference and Progstar Natural History Study.

miniABCA4: Autosomal Recessive Stargardt Disease (ABCA

ABCA4 cDNA size: ~7kb and contains multiple functional elements

Generate MiniABCA4 Fragments

↓

Clone into AAV Vectors

↓

Demonstrate *In Vitro* Protein Expression

↓

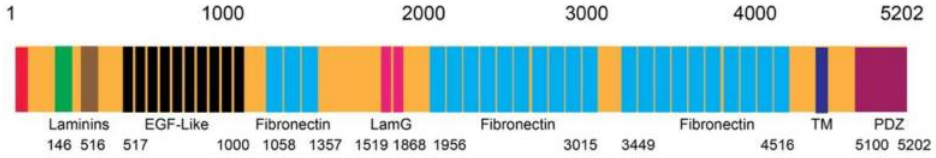
Proof of Concept *(in vivo)*

Illustration purposes only

miniUSH2A: Overview

- Disease: Mutations in the USH2A gene lead to visual loss in
  - Usher syndrome type 2A: Prevalence estimates range between ~13K – 55K in US & EU5 combined based on published literature
  - USH2A related nonsyndromatic autosomal recessive retinitis pigmentosa: Prevalence estimate of ~7K in US & EU5 combined based on published literature

- Protein: USH2A/Usherin: 5200 amino acids, ~15Kb (too large for AAV delivery)



- Technology: Mutation Independent Minigene Delivered with AAV Vector

Source: Experimental Eye Research 79 (2004):167-173. J R Soc Med 2006;99:189-191. https://nei.nih.gov/health/ushers/ushers. Otology & Neurology 2018; 40:121-129.

AAV Gene Delivery Technology

- Strategic collaboration with Dr. Guangping Gao
  – Renowned AAV Pioneer at UMass Medical School
- Pilot study to identify and evaluate various AAV capsids and routes of administration
- Histology data expected to be received 2H’19

IVERIC bio Gene Therapy Pipeline

Goal: Broadest and deepest inherited retinal disease portfolio

AAV Gene Therapy

Indication	Research	Pre-clin.	Phase 1/2	Phase 3	Planned Milestones
IC-100: RHO-adRP (AAV5)					• Phase 1/2: plan to initiate **2H 20**
IC-200: *BEST1*-Related IRDs (AAV2)					• Phase 1/2: plan to initiate **1H 20**
miniCEP290: LCA10					• Research results: expected in **20**
miniABCA4: STGD1					• Research results: expected in **20**
miniUSH2A: *USH2A*-related IRDs					• Recently commenced*
AAV Gene Delivery Technology					• Research results: expected in **20**

*We have an option to exclusively in-license intellectual property resulting from ongoing sponsored research.

- Compelling Science
- High Unmet Medical Need & Potential Best-in-Class
- Significant Orphan Patient Populations

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Appendix
(Therapeutic Assets Available for Partnering)

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Zimura Clinical Programs: Update

Indication	Research/ Pre-clinical	Phase 1	Phase 2	Phase 3	Status
OPH2003: GA secondary to Dry AMD (monotherapy)					• Phase 2b ongoing • Initial top-line data expected **Q4 2019**
OPH2005: STGD1 (monotherapy)					• Phase 2b ongoing • Initial top-line data expected **2H 2020**

Study	# of Pts. Enrolled	NA Sites	EX-US Countries	Ex-US Sites
OPH2003 Dry AMD	**286** COMPLETE	56	6	24
OPH2005 Stargardt	**95** COMPLETE	15	8	26

OPH2003

Geographic Atrophy (GA) Secondary to Dry AMD

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OPH2003: Zimura in GA Secondary to Dry AMD – Ongoing

- Phase 2b, randomized, double masked, sham controlled clinical trial
- 3 Cohorts will be included for statistical analysis:
  - Zimura 4mg dose
  - Zimura 2mg dose
  - Sham
- ~ 286 subjects were enrolled for monthly treatment with Zimura or Sham fo 18 months
- Primary Efficacy Endpoint
  - Mean rate of change in GA over 12 months measured by fundus autofluorescence (FAF) at three time points
- Top-line Data Expected in 2019
  - Data cleaning activities ongoing
  - Statistical analysis plan (SAP) finalized

OPH2005

Autosomal Recessive Stargardt Disease

Orphan Indication

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OPH2005: Zimura in AR Stargardt Disease – Ongoing

- Phase 2b, randomized, double masked, sham controlled clinical tria
- Two arms:
  - Zimura 4mg
  - Sham
- ~ 95 subjects were enrolled for treatment with Zimura or Sham for 18 months
- Primary Efficacy Endpoint
  - Mean rate of change over 18 months in the area of ellipsoid zone defec measured by en face SD-OCT
- Top-line (18 month) data expected in 2H 2020
  - Potential to be used as a registration study

HtrA1 Inhibitor Program

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HtrA1 Inhibitor Program

- Acquired Inception 4, a privately held company backed by Versant Ventures
  - Gained worldwide development and commercial rights to HtrA1 inhibito program to treat age-related retinal diseases
  - ISEE obtained ~$6.1 million in cash
  - Versant a major new investor in ISEE (~5.2 million shares)
  - Versant to identify additional opportunities to potentially expand IVERIC bio pipeline

HtrA1 Inhibitor Program: Small Molecules with Hig Affinity and Specificity for HtrA1

- Strong genetic link between HtrA1 & AMD:
  - Homozygotes have ~8.2 fold increased risk
- AMD patients overexpress HtrA1:
  - Increased intracellular expression of HtrA1 inside the RPE cells of AMD patients
  - Increased HtrA1 staining in a majority of drusen of AMD patients' donor eyes
  - Increased HtrA1 protein level in aqueous humor of wet AMD patients
- Overexpression of HtrA1 protein contributes to AMD:
  - Damages the extracellular matrix and Bruch's membrane
  - Alters and disrupts RPE cells
  - Upregulates complement
  - Leads to drusen formation
  - Interferes with RPE cell function and secondarily impacting photoreceptors

Sources: Human Molecular Genetics, 2005: 14, 3227–3236. Arch Ophthalmol. 2007;125:55-62. Aging Cell. 2018 May 5:e12710. doi: 10.1111/acel.12710. [Epub ahead of print]. Investigative Ophthalmology & Visual Science January 2017, Vol.58, 162-167. EBioMedicine 27 (2018) 258–274. Science 2006; 314 (5801), 992-993. Cell Cycle 6:9, 1122-1125, 1 May 2007]. Scientific Reports 14804 | DOI:10.1038. Invest Ophthalmol Vis Sci. 2010;51:3379–3386. PLoS One. 2011;6(8):e22959. doi: 10.1371/journal.pone.0022959. Invest Ophthalmol Vis Sci. 2010;51:3379–3386.

HtrA1 Inhibitor Program

- Formulation development activities ongoing
- Small scale API manufacturing ongoing
- CMO selection process underway for API scale-up and GMP manufacturing
- Animal PK/ formulation tolerability studies planned