



Delivering on the Promise of Gene Therapy for Rare Inherited Retinal Diseases

April 2026



Nargiza,
BEST1 patient

Disclosures and Forward-Looking Statements

This presentation contains forward-looking statements within the meaning of the Private Securities Litigation Reform Act of 1995. Such statements include, but are not limited to, statements concerning data from and future enrollment for our clinical trials and our pipeline of additional indications. These forward-looking statements relate to us, our business prospects and our results of operations and are subject to certain risks and uncertainties posed by many factors and events that could cause our actual business, prospects and results of operations to differ materially from those anticipated by such forward-looking statements. Factors that could cause or contribute to such differences include, but are not limited to, those described under the heading “Risk Factors” included in our Annual Report on Form 10-K for the fiscal year ended December 31, 2024 and our Quarterly Reports on Form 10-Q for the fiscal quarters ended March 31, 2025, June 30, 2025 and September 30, 2025 and in our other filings with the U.S. Securities and Exchange Commission (the “SEC”). Readers are cautioned not to place undue reliance on these forward-looking statements, which speak only as of the date of this presentation. In some cases, you can identify forward-looking statements by the following words: “anticipate,” “believe,” “continue,” “could,” “estimate,” “expect,” “intend,” “aim,” “may,” “ongoing,” “plan,” “potential,” “predict,” “project,” “should,” “will,” “would” or the negative of these terms or other comparable terminology, although not all forward-looking statements contain these words. We undertake no obligation to revise any forward-looking statements in order to reflect events or circumstances that might subsequently arise. These forward-looking statements are based upon our current expectations and involve assumptions that may never materialize or may prove to be incorrect. Actual results and the timing of events could differ materially from those anticipated in such forward-looking statements as a result of various risks and uncertainties, including, without limitation: our clinical data related to gene therapies for the treatment of inherited retinal diseases is preliminary and related to a relatively small group of patients, and, as a result, data that initially appears promising may be revised, updated, or invalidated at a later data readout and/or may ultimately not be capable of duplication in additional patients; failure to successfully integrate our businesses following our acquisition of former Opus Genetics Inc. (the “Opus Acquisition”) could have a material adverse effect on our business, financial condition and results of operations; the Opus Acquisition significantly expanded our product pipeline and business operations and shifted our business strategies, which may not improve the value of our common stock; our gene therapy product candidates are based on a novel technology that is difficult to develop and manufacture, which may result in delays and difficulties in obtaining regulatory approval; our planned clinical trials may face substantial delays, result in failure, or provide inconclusive or adverse results that may not satisfy the U.S. Food and Drug Administration (the “FDA”) requirements to further develop our therapeutic products; delays or difficulties associated with patient enrollment in clinical trials may affect our ability to conduct and complete those clinical trials and obtain necessary regulatory approvals; changes in regulatory requirements could result in increased costs or delays in development timelines; we depend heavily on the success of our product pipeline; if we fail to find strategic partners or fail to adequately develop or commercialize our pipeline products, our business will be materially harmed; others may discover, develop, or commercialize products similar to those in our pipeline before or more successfully than we do or develop generic variants of our products even while our product patents remain active, thereby reducing our market share and potential revenue from product sales; we do not currently have any sales or marketing infrastructure in place and we have limited drug research and discovery capabilities; the future commercial success of our products could significantly depend upon several uncertain factors, including third-party reimbursement practices and the existence of competitors with similar products; product liability lawsuits against us or our suppliers or manufacturers could cause us to incur substantial liabilities and could limit commercialization of any product candidate that we may develop; failure to comply with health and safety laws and regulations could lead to material fines; we have not generated significant revenue from sales of any products and expect to incur losses for the foreseeable future; our future viability is difficult to assess due to our short operating history and our future need for substantial additional capital, access to which could be limited by any adverse developments that affect the financial services markets; raising additional capital may cause our stockholders to be diluted, among other adverse effects; we operate in a highly regulated industry and face many challenges adapting to sudden changes in legislative reform or the regulatory environment, which affects our pipeline stability and could impair our ability to compete in international markets; we may not receive regulatory approval to market our developed product candidates within or outside of the U.S.; with respect to any of our product candidates that receive marketing approval, we may be subject to substantial penalties if we fail to comply with applicable regulatory requirements; our potential relationships with healthcare providers and third-party payors will be subject to certain healthcare laws and regulations, which could expose us to extensive potential liabilities; we rely on third parties for material aspects of our business, such as conducting our nonclinical and clinical trials and supplying and manufacturing bulk drug substances, which exposes us to certain risks; we may be unsuccessful in entering into or maintaining licensing arrangements (such as our license agreement with Viatrix, Inc.) or establishing strategic alliances on favorable terms, which could harm our business; our current focus on the cash-pay utilization for future sales of RYZUMVI may limit our ability to increase sales or achieve profitability with this product; inadequate patent protection for our product candidates may result in our competitors developing similar or identical products or technology, which would adversely affect our ability to successfully commercialize; we may be unable to obtain full protection for our intellectual property rights under U.S. or foreign laws; we may become involved in lawsuits for a variety of reasons associated with our intellectual property rights, including alleged infringement suits initiated by third parties; we are dependent on our key personnel, and if we are not successful in attracting and retaining highly qualified personnel, we may not be able to successfully implement our business strategy; as we grow, we may not be able to operate internationally or adequately develop and expand our sales, marketing, distribution, and other corporate functions, which could disrupt our operations; the market price of our common stock is expected to be volatile; our common stock may be subject to delisting from the Nasdaq Capital Market, which could adversely affect our ability to access capital markets; factors out of our control related to our securities, such as securities litigation or actions of activist stockholders, could adversely affect our business and stock price and cause us to incur significant expenses; our business could experience an adverse impact from current or proposed tariffs on imported goods we purchase; our ability to utilize our common stock to finance future capital needs, or for other purposes, is limited by our authorized shares available for issuance; and instability and operational disruptions at government agencies, such as the FDA, may adversely impact our development and commercialization plans by causing delays and requiring the use of additional, unforeseen resources to obtain regulatory approval for trials or products in our pipeline.

The foregoing review of important factors that could cause actual events to differ from expectations should not be construed as exhaustive. Readers are urged to carefully review and consider the various disclosures made by us in this report and in our other reports filed with the SEC that advise interested parties of the risks and factors that may affect our business. All forward-looking statements contained in this presentation speak only as of the date on which they were made. We undertake no obligation to update such statements to reflect events that occur or circumstances that exist after the date on which they were made.

The Opus Opportunity: A String of Pearls Strategy

7 Targeted IRD AAV gene therapy assets

Portfolio approach produces multiple data readouts and milestones



Validated science & delivery approach

Follow-on treatments from the first approved IRD gene therapy

1st Mover advantage in multiple indications

2 of 7 assets in clinical trials: upside across additional patient populations

Streamlined timelines & capital efficiency



Cost-effective development: efficient programs with compelling economics

Rare disease regulatory advantages



Flexibility & potentially streamlined paths to approval

Revenue & partnership streams drive value



Non-dilutive & voucher funding plus partnered strategic financial asset

LCA5

BEST1

RHO

RDH12

MERTK

CNGB1

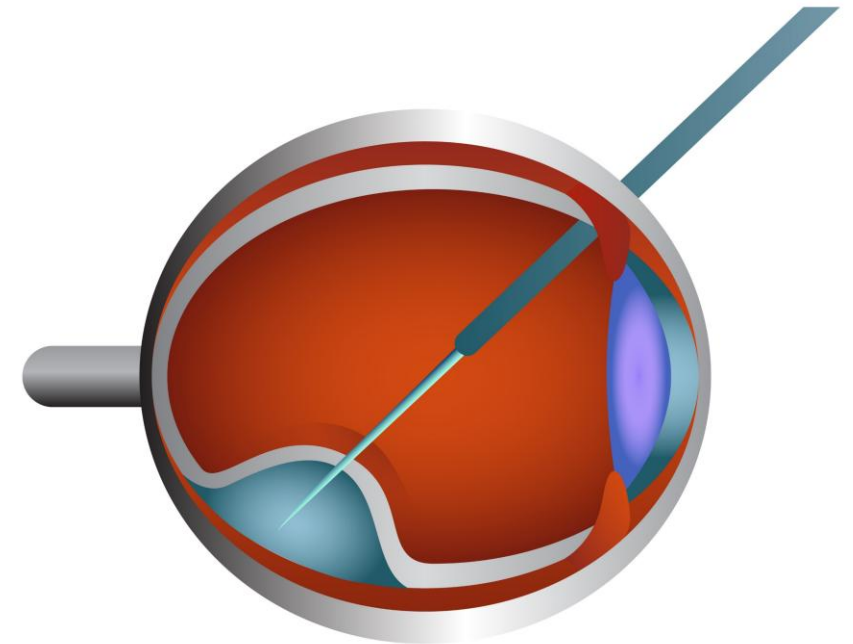
NMNAT1

Precision-Targeted, One-Time-Treatment for Rare Diseases

350+ genes known to cause IRDs

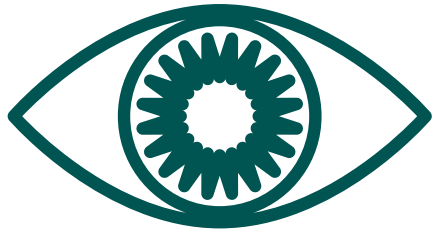
- World-class science from pioneers in gene therapy
- Structure-function biology well-characterized with measurable outcomes amenable to gene augmentation
- Rigorous selection of clinical programs
 - Grounded in natural history studies and patient registries
 - Validation using large animal models
- Single-vector technology for each indication with clear development paths; not discovery-stage
- Faster development path – able to quickly assess efficacy

Proven subretinal delivery with established safety profile and clinical precedent



Structure-Function Dissociation: The Clinical Imperative

Targeting diseases where the structure is intact



*Treat the function to
reverse pathology and
restore or preserve vision*

Retinal structure is relatively preserved
even though visual function is already impaired



This creates a “therapeutic window” where there are still enough
viable cells for AAV gene replacement to restore function

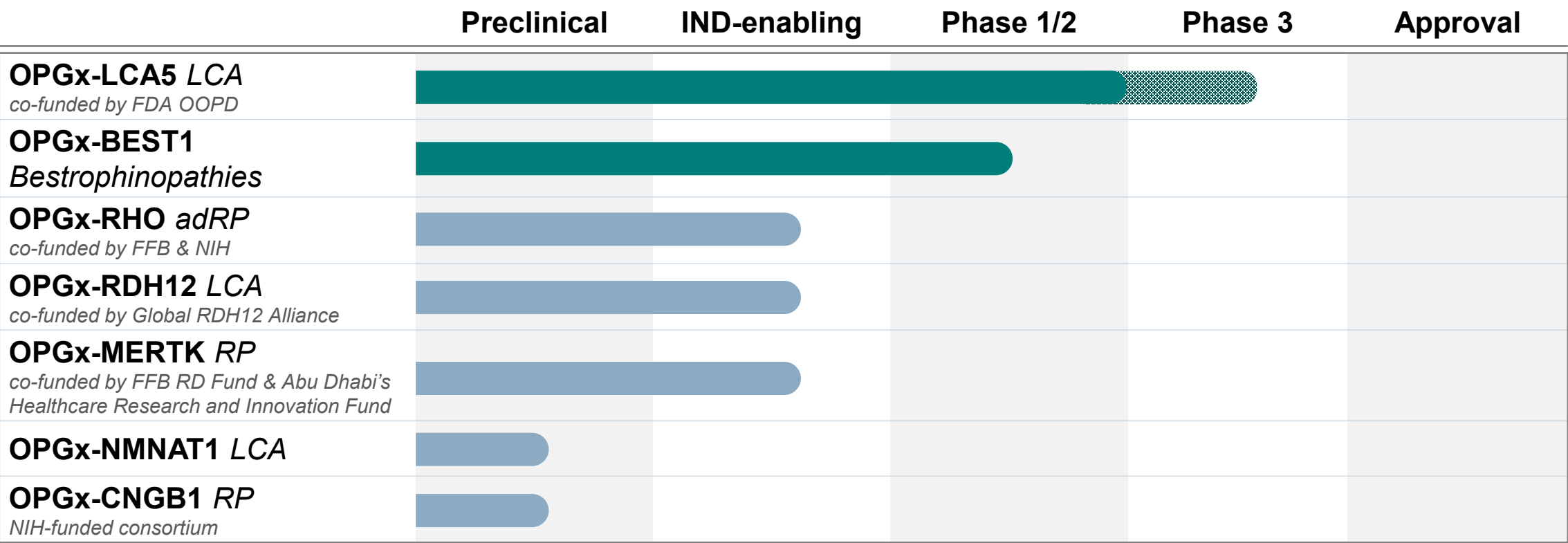


Pick the right patients, and choose meaningful endpoints for our
clinical trials

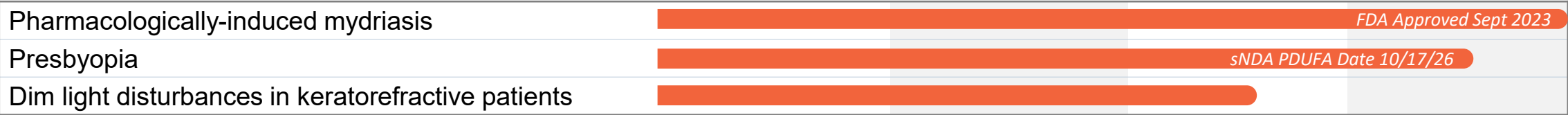


Clinical evidence for curative potential in IRDs

Building a Differentiated Pipeline



Commercial Partnered Program: Phentolamine Ophthalmic Solution 0.75%



Opus Genetics owns worldwide rights to all gene therapy programs.

LCA, Leber congenital amaurosis; FDA OOPD, Office of Orphan Products Development; BEST1, bestrophin 1; RHO, rhodopsin; RP, retinitis pigmentosa; FFB, Foundation Fighting Blindness; RDH12, retinol dehydrogenase 12; MERTK, MER proto-oncogene tyrosine kinase; NMNAT1, nicotinamide mononucleotide adenylyltransferase; CNGB1, cyclic nucleotide-gated channel β1.



Actively Advancing Lead Indications

OPGx-BEST1

BEST1-related mutations associated with retinal degenerative diseases

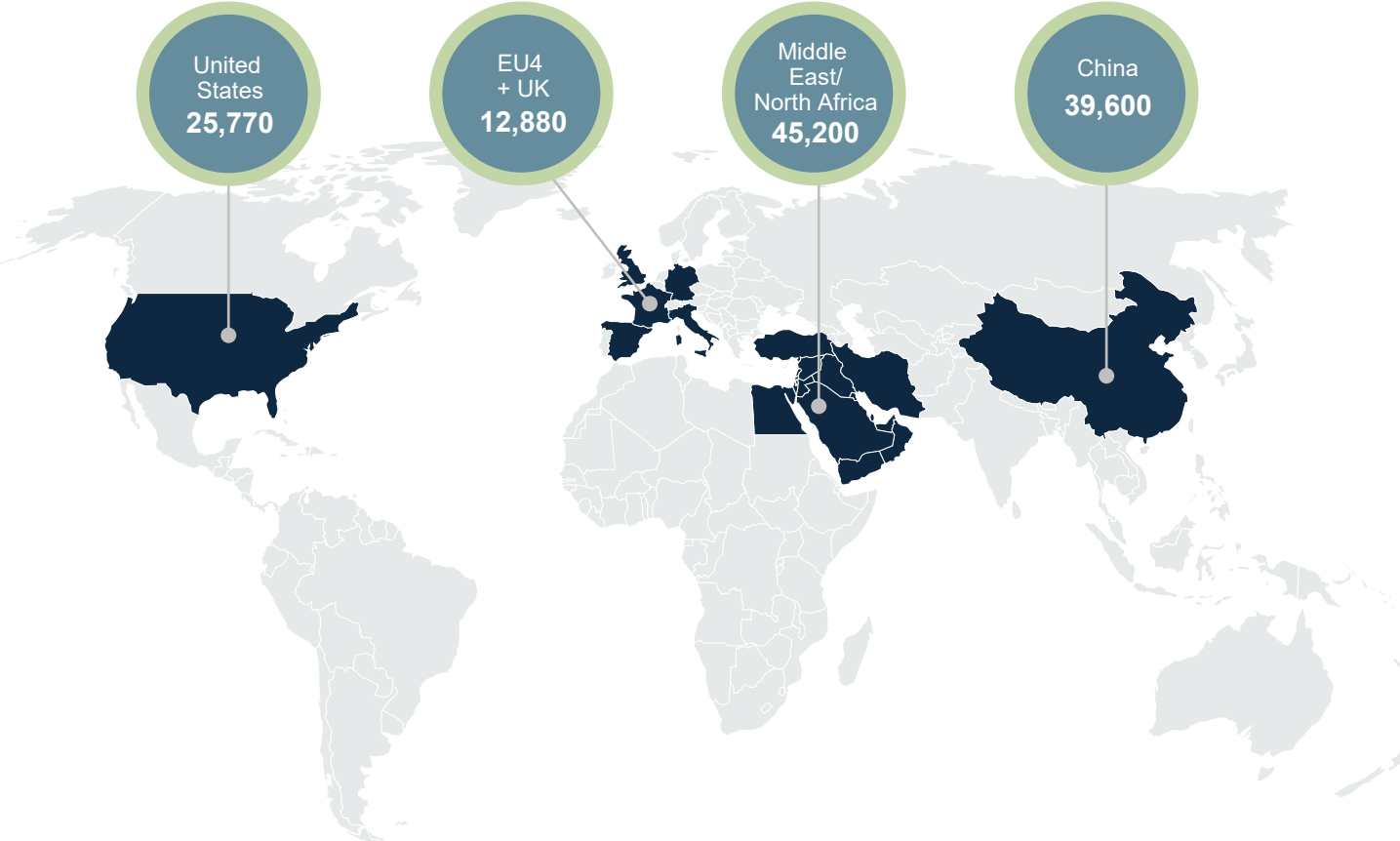
- Reported 3-month results from sentinel participant highlighting positive safety, tolerability, & biological activity
- Potential treatment for both the dominant and recessive forms of BEST1 disease
- Potentially eligible for multiple regulatory designations
- Enrollment ongoing in Phase 1/2 trial with five participants targeted for Cohort 1
- **3-month data from Cohort 1 expected in mid-year 2026**

OPGx-LCA5

Early-onset, severe hereditary retinal degeneration

- Positive Phase 1/2 safety and efficacy results observed in adult and pediatric participants
- Successful Type B RMAT meeting
- Multiple Regulatory Designations:
 - Rare Pediatric Disease
 - Regenerative Medicine Advanced Therapy
 - Orphan Drug
- Potential eligibility for Priority Review Voucher upon BLA approval
- **Enrollment ongoing in run-in period for planned, adaptive Phase 3 trial**

IRD Patient Prevalence Across Select Global Markets Provides Significant Opportunity



Gene	U.S.	EU4 + UK	Middle East/ North Africa	China	Total Prevalence by Gene
LCA5	~170	~170	~1,400	~1,500	~3,240
BEST1	~8,400	~4,900	~3,600	~4,900	~21,800
RHO	~8,800	~4,600	~2,200	~14,600	~30,200
RDH12	~2,500	~1,000	~17,500	~9,900	~30,900
MERTK	~2,600	~460	~14,300	~4,600	~21,960
NMNAT1	~1,200	~750	~1,100	~2,200	~5,250
CNGB1	~2,100	~1,000	~5,100	~1,900	~10,100
Total Prevalence by Region	~25,770	~12,880	~45,200	~39,600	

OPGx-BEST1



Juan,
BEST1 patient

BEST1 Mutations are Associated with Retinal Degeneration

Prevalence

- ~22,000 patients in select global markets incl. 8,400 in the U.S.¹
- Accounts for ~3.5% of all IRDs²

Clinical Characteristics

- Mutations in BEST1 have been associated with at least five clinically distinct retinal degenerative diseases³
- Bestrophinopathy is characterized by retinal lesions, with symptoms including dimness of vision, metamorphopsia (distorted vision), or scotoma (blind spot)⁴
- Mutations, depending on their impact on BEST1 function, may lead to serous retinal detachment, vitelliform lesions in the macular region, macular atrophy, and loss of central vision
- Most bestrophinopathies exhibit a slow rate of decline and central photoreceptors usually remain viable for decades, providing a wide therapeutic window

OPGx-BEST1

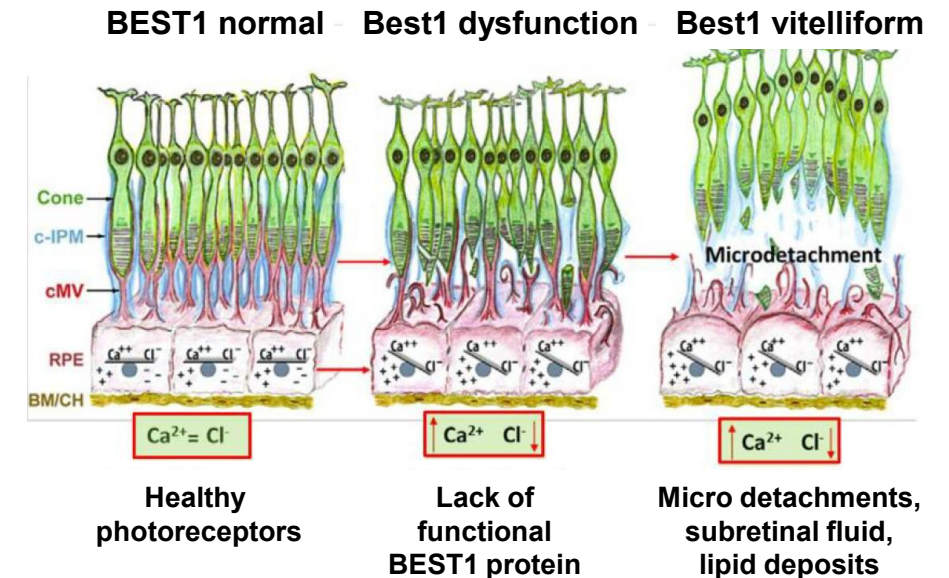
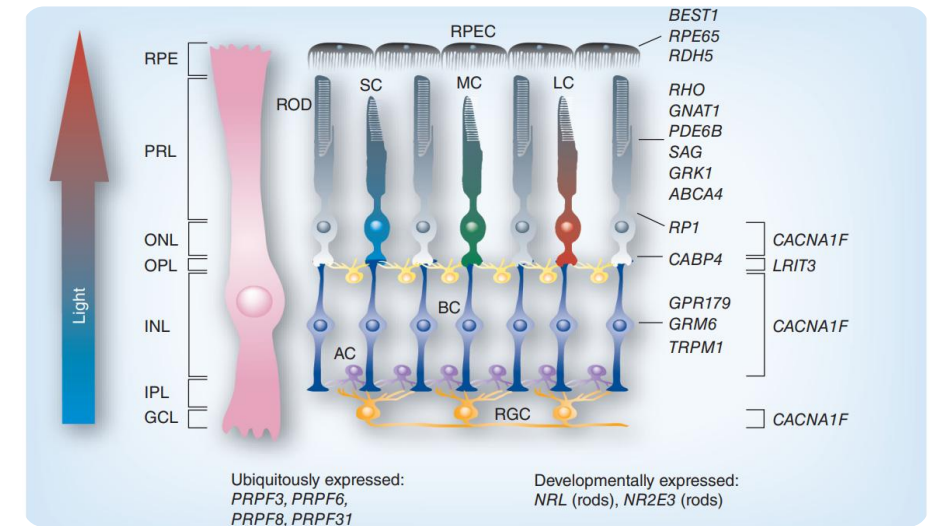
- Designed to restore retinal ion homeostasis in bestrophinopathies, ameliorating retinal structural and functional deficits
- Targeted using the AAV2 capsid employed in Luxturna and an RPE-specific promoter

BEST1 Disease Biology

- BEST1 gene encodes for Bestrophin-1 (basolateral RPE)
- 585 AA homo-**pentameric** transmembrane protein (5 BEST1 monomers are required for full length BEST1 channel)
- Ca²⁺-activated Chloride channel (CaCC)
 - Transepithelial ion transport of intracellular calcium
 - RPE cell volume
 - Homeostasis of subretinal space / IP matrix

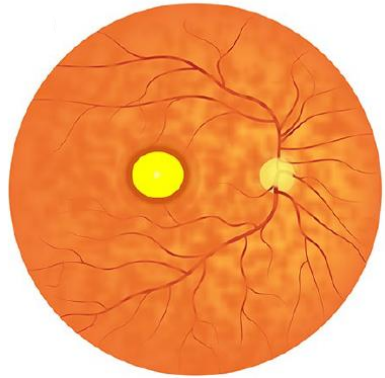


The BEST1 protein is a pentamer that assembles as a complex of five identical monomers



BEST1 IRDs: Clinical Staging and Pathology of Two Main Phenotypes

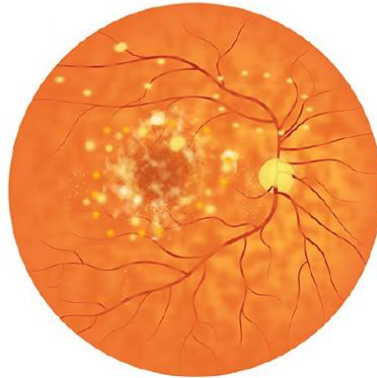
BVMD



BVMD Prevalence:
1:60,000

- Macular dystrophy similar to AMD with teen onset
- 20/60 and worse BCVA observed beginning at Stage 3 disease, leading to choroidal neovascularization, retinal detachment, chorioretinal atrophy

ARB



ARB prevalence:
1:1,000,000

- Severe, multifocal degeneration beginning in childhood

BVMD Stages

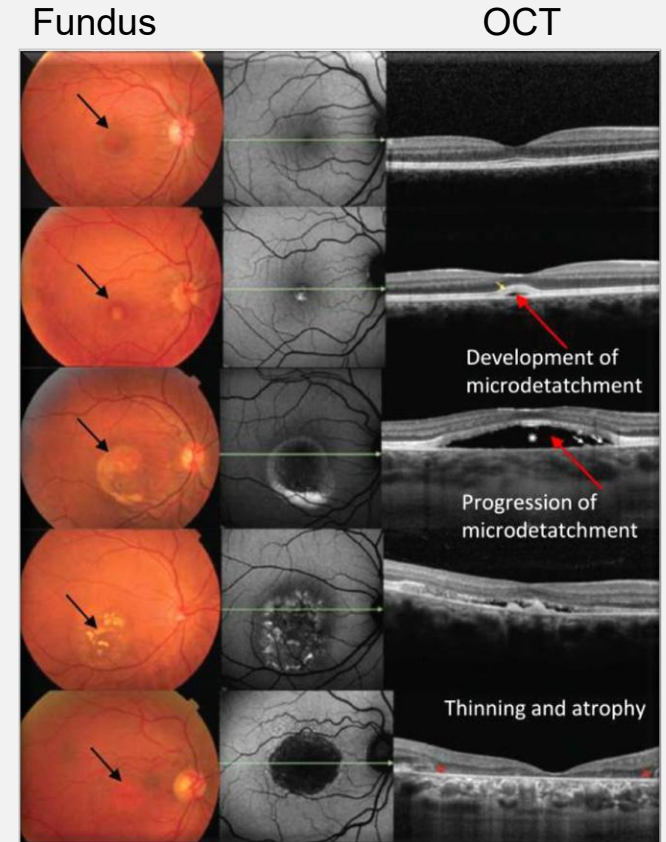
Stage 1:
Pre-vitelliform

Stage 2:
Vitelliform

Stage 3:
Pseudohypopyon

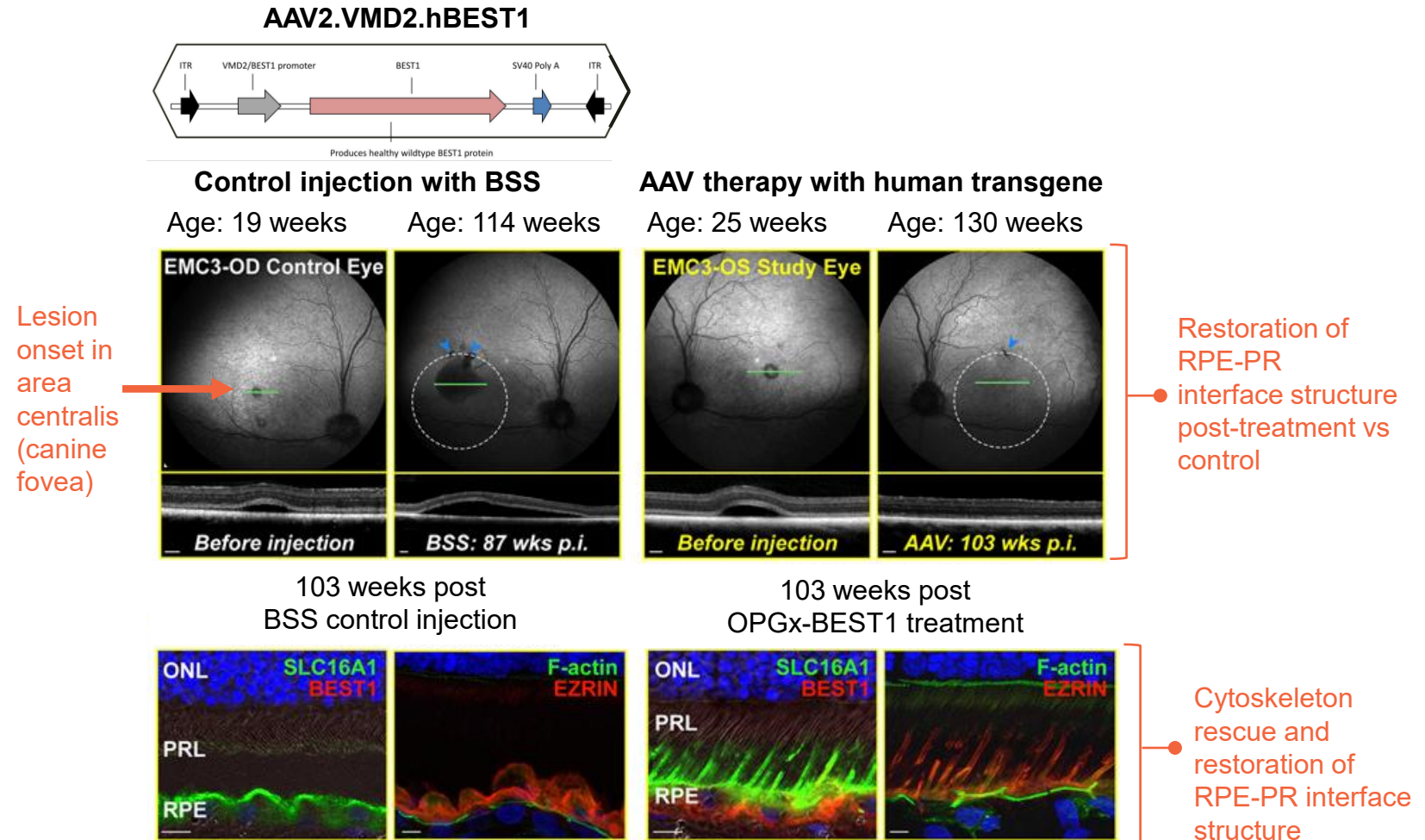
Stage 4:
Vitelliruptive

Stage 5:
Atrophy/Fibrosis



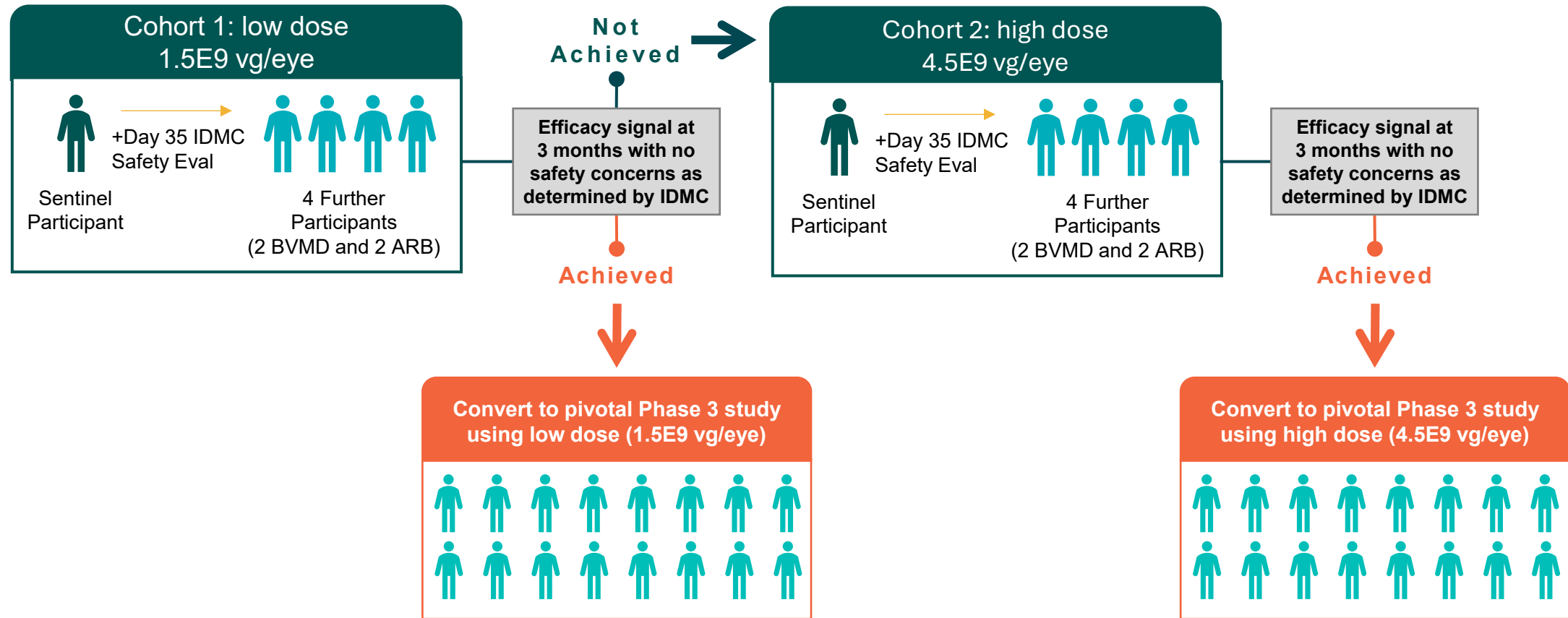
Proof of Concept of OPGx-BEST1 AAV2 in a Canine Model of ARB

- Robust restoration of RPE-photoceptor interface demonstrated in canine models of ARB using an AAV2.VMD2.hBEST1 construct
- Treated cBEST1 models exhibit reversal of lesions and retinal microdetachments, which are hallmarks BEST1 disease
- De-risked AAV2 capsid, with AAV2.VMD2 clinical precedent (MERTK) with no known safety issues
- Safety/efficacy studies in cBEST1: Regression of lesions and dose-dependent ERG improvement with favorable safety profile supporting clinical dosing
 - n=9 dogs at 16-108 weeks, low dose of 1.4E9 vg/eye and high dose of 4.5E9 vg/eye



BIRD-1: Phase 1/2 Study of OPGx-BEST1 Subretinal Gene Therapy

Adaptive, open-label, dose-escalation, safety and tolerability study of a subretinal injection of OPGx-BEST1 in adult (≥ 18 years old) participants with autosomal dominant BVMD or autosomal recessive ARB



OPGx-BEST1 was Well Tolerated in Sentinel Participant at 3 Months

Demographics

Age	63
Sex	Female
Diagnosis year	2015
BEST phenotype	ARB
Study (treated) eye	OS
VA at Baseline (OS)	LogMAR 1.66 (CF)
CST at Baseline (OS)	Atrophic macula
Follow-up duration	3 months (to date)

No ocular inflammation, treatment-related adverse events, or dose-limiting toxicities

Day 14

- Few pigmented cells in vitreous
- No AC inflammation
- Steroid taper initiated

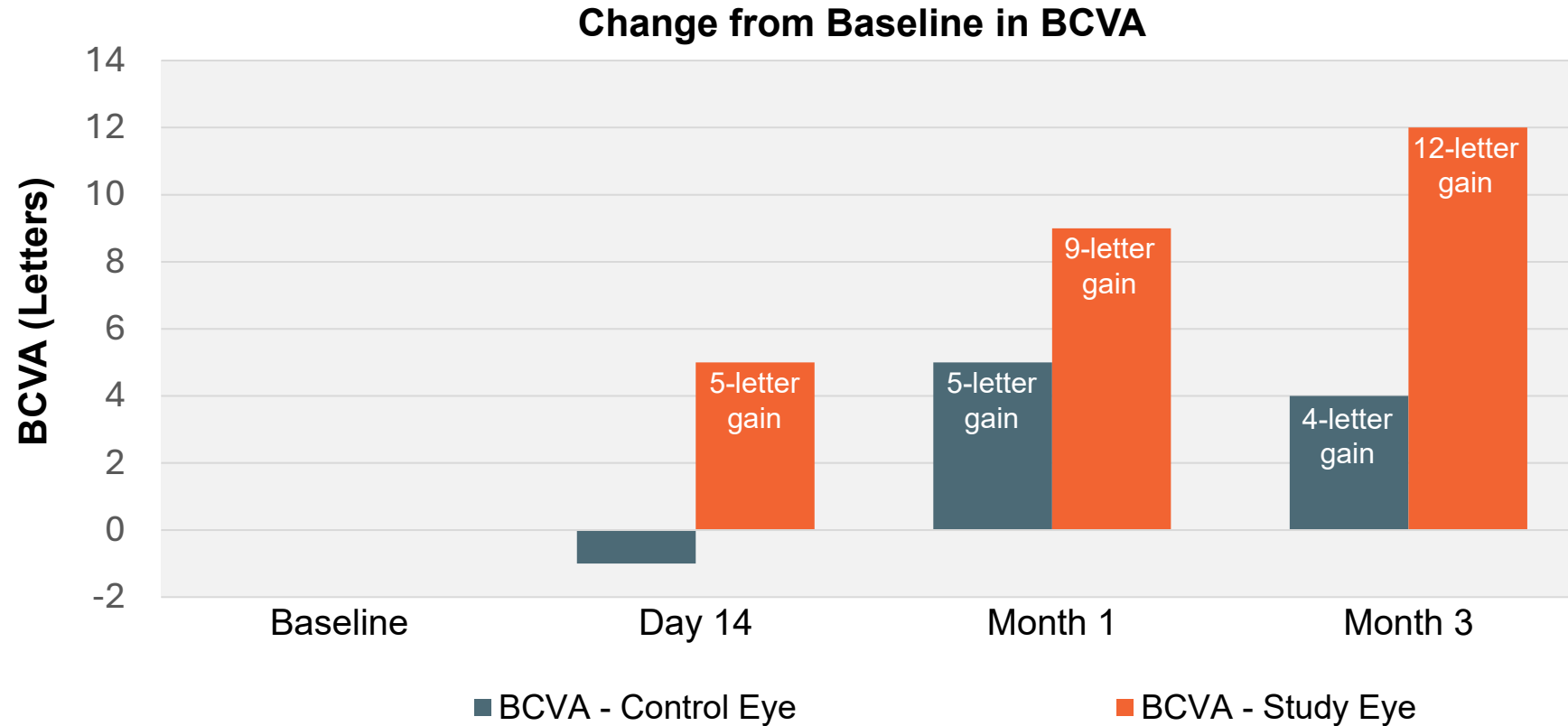
Postop Month #1

- No ocular inflammation
- No ocular AEs
- No treatment-related AEs or DLT

Postop Month #3

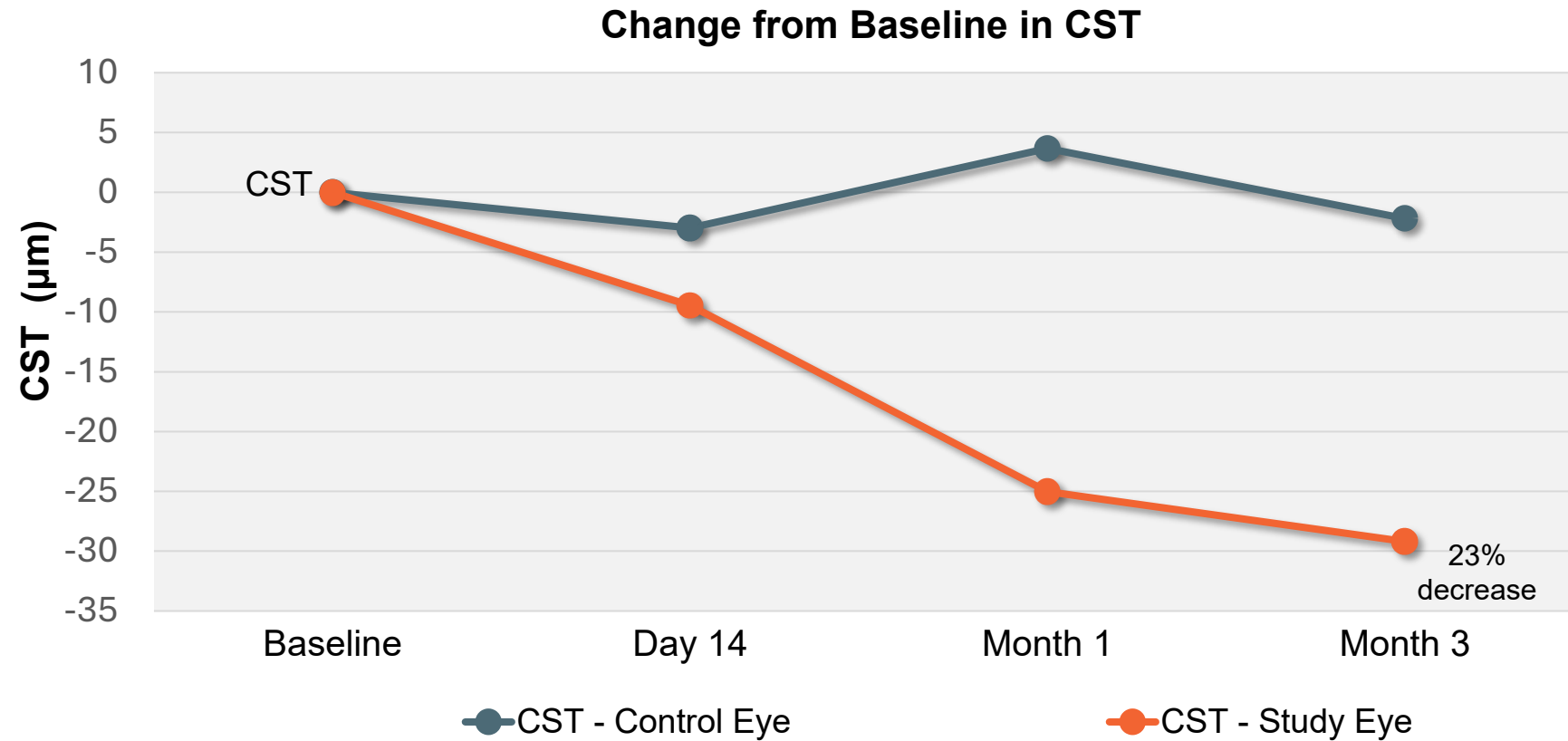
- No ocular inflammation
- No ocular adverse events
- Steroid taper complete

BCVA in the Treated Eye Improved Over 3 Months



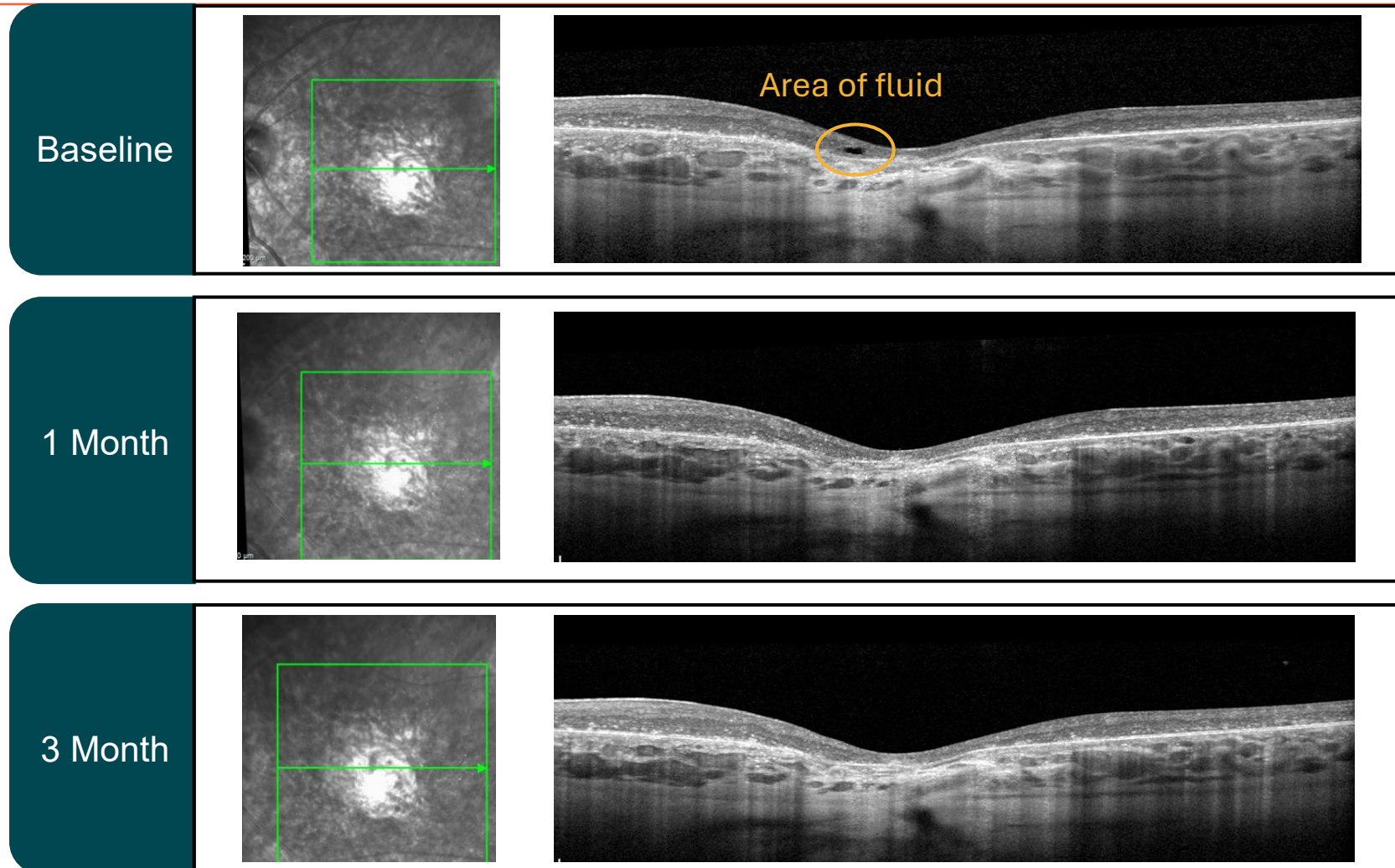
Early signal of functional improvement (12 letter gain) observed in the study eye;
Participant commented that their vision was no longer “darkening”

CST in Treated Eye Improved Over 3 Months



Structural improvement (23% decrease) observed in the study eye

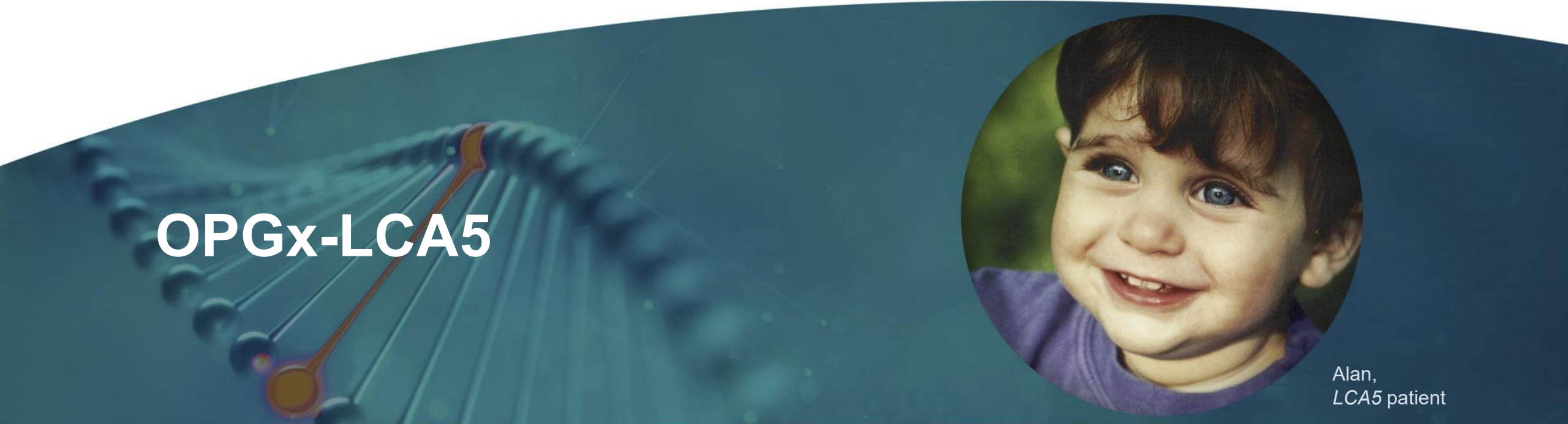
Treated Area Improved Over 3 Months



**Reduction of
intraretinal fluid as
early as 1 month in
areas with less
atrophy**

OPGx-BEST1: Favorable Early Safety and Initial Efficacy with Additional Data Expected Mid-Year 2026

- ✓ OPGx-BEST1 is a targeted gene augmentation approach designed to restore RPE function and address the underlying cause of BEST1-related IRD
- ✓ 3-month results in the sentinel participant show OPGx-BEST1 is well-tolerated with no ocular inflammation, no ocular or treatment-related AEs, and no DLT
- ✓ Early Phase 1/2 study results are encouraging with excellent safety data and early signals showing promise for patients with viable RPE
- ✓ 3-month results from the full Cohort 1 expected in mid-year 2026

A Newton's cradle with several silver spheres, one of which is in motion, set against a dark blue background with faint white lines.

OPGx-LCA5



Alan,
LCA5 patient

LCA5 is an Early-Onset, Severe Hereditary Retinal Degeneration

Prevalence

- ~3,200 patients in select global markets incl. 170 in the U.S.¹
- LCA5 represents ~2% of all LCA cases³

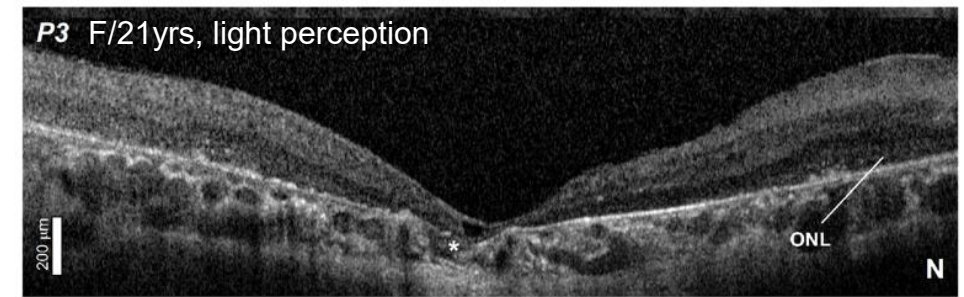
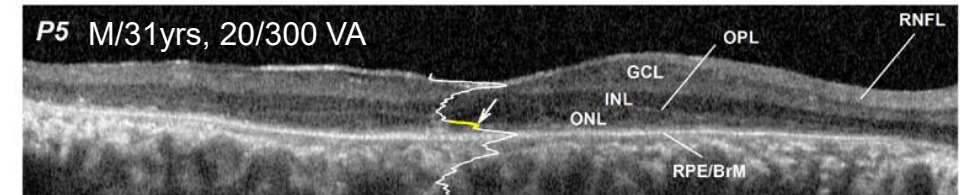
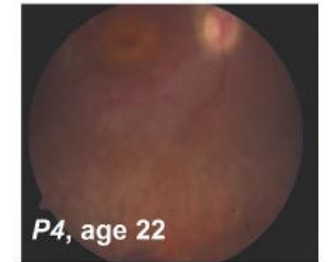
Clinical Characteristics

- Presentation in 1st year of life with nystagmus and vision loss^{2,3}
- Severe and early photoreceptor loss results in severely abnormal or non-detectable visual fields^{2,3}
- Visual acuity often limited to hand motions or light perception^{2,3}
- Fundus photography exhibits pigmentary retinopathy with areas of RPE and photoreceptors²
- OCT shows spared photoreceptors (ONL) and inner/outer segments (P5) even in severe disease (P3)²



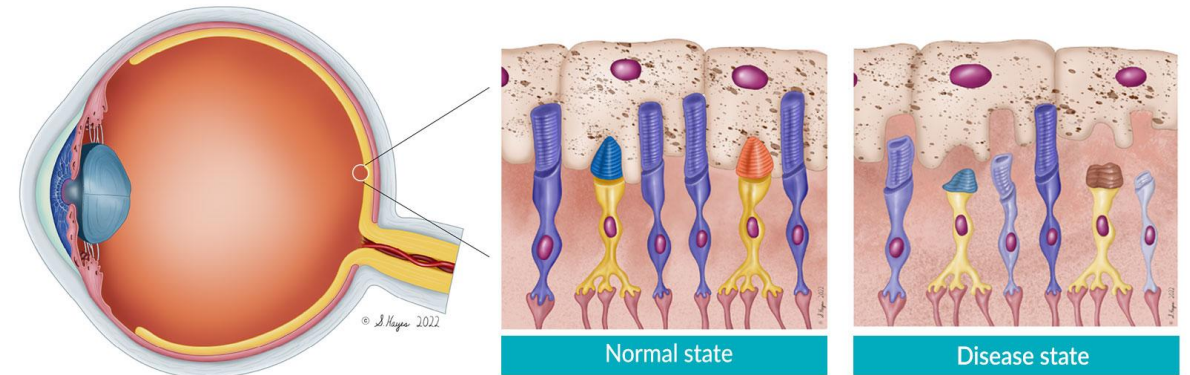
Structure-function dissociation creates favorable pathobiology for AAV gene replacement

LCA5 patients exhibit preserved photoreceptors in the central retina in adulthood despite disease severity and early onset



OPGx-LCA5: Designed to Restore Structure and Function in Photoreceptors

- Lebercilin is a ciliary protein critical for the function of photoreceptor inner and outer segments¹
- In *LCA5* patients, photoreceptor function is severely impaired due to a lack of functioning lebercilin¹
 - However, photoreceptors can survive through the third decade of life, suggestive of a broad window for therapeutic intervention²



- **OPGx-LCA5 is designed to address mutations in the *LCA5* gene, which encodes for the lebercilin protein**
 - Clinically derisked AAV8 vector delivers a functional *LCA5* gene directly to photoreceptor cells
 - Same promoter technology as LUXTRNA®
 - Validated surgical delivery method via subretinal injection

OPGx-LCA5 Phase 1/2: Well-Tolerated with Activity on Multiple Outcome Measures

Visual Acuity

- Observed improvement in visual acuity in 5 out of 6 participants
- Initial gains as early as 1 month
- Duration of effect out to 18 months in adult participants

Full-field Stimulus Test

- Observed improvement in FST in 5 out of 6 participants
- Increased sensitivity in treated eyes and measurable photoreceptor function in all 6 participants

Mobility Test (MLOMT)

- Significant improvement observed in participants with formative vision at baseline
- Observed improvement in 2 out of 3 adult participants out to 18 months

Safety

- Well-tolerated in all 6 treated participants
- No ocular SAEs or dose-limiting toxicities
- All ocular AEs were mild, anticipated, and unrelated to study drug

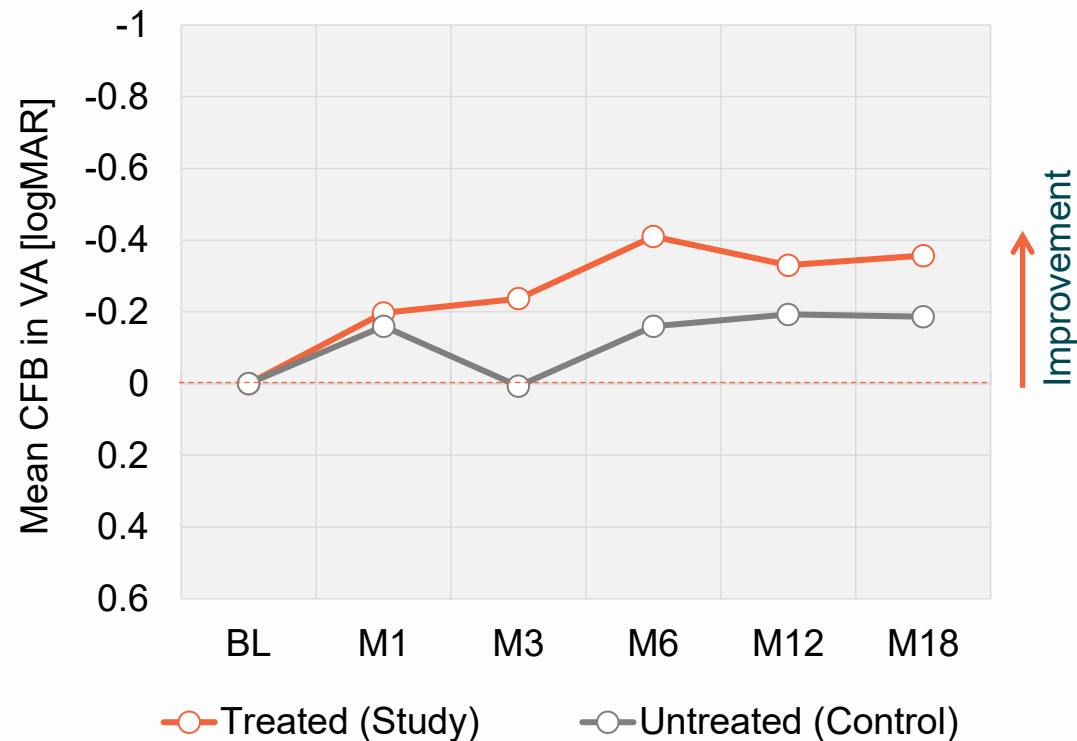
Participant Demographics in Phase 1/2 Trial

	Adult Participants			Pediatric Participants		
Participant #	01-01	01-03	01-04	01-05	01-06	01-07
Age	34	26	19	17	16	17
Gender	Female	Male	Female	Female	Male	Female
Study eye treated	Left (OS)	Left (OS)	Right (OD)	Right (OD)	Right (OD)	Right (OD)
Baseline visual acuity logMAR	1.38	2.90	0.96	2.2	0.96	2.3
Follow-up duration	18 mo.	18 mo.	18 mo.	3 mo.	3 mo.	3 mo.

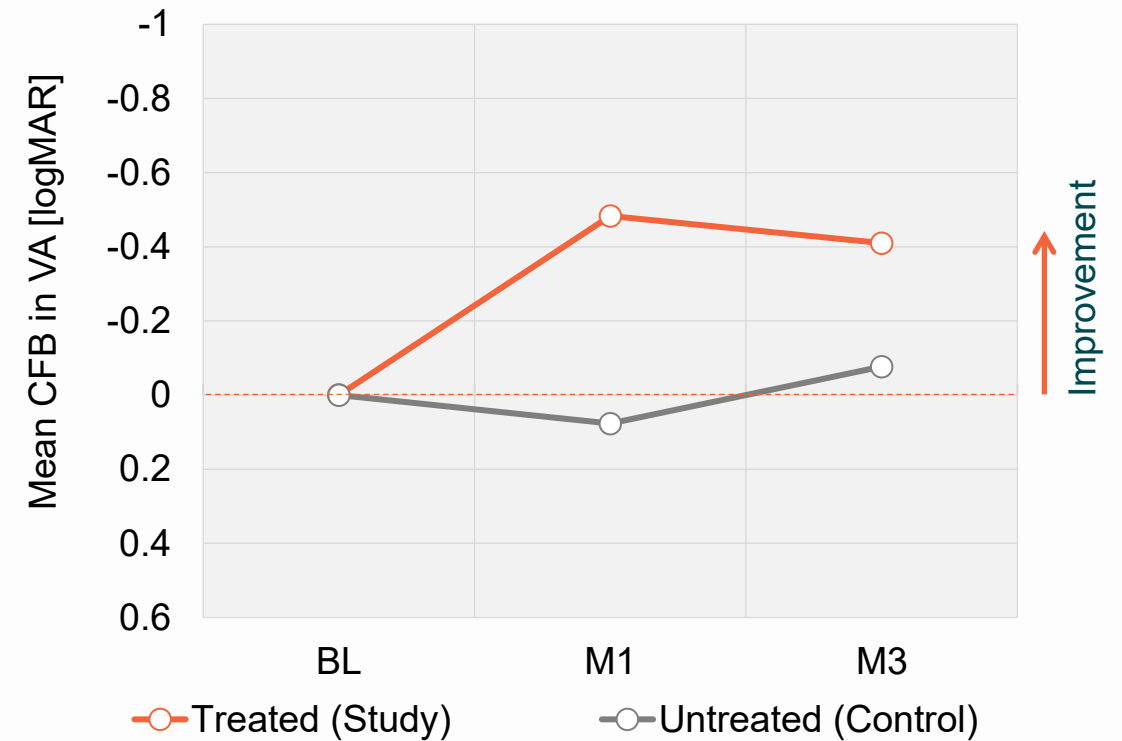
The participant’s eye with the worst vision was treated in all cases.

Visual Acuity Maintained in Adults Over 18 Months and Improved Over 3 Months in Pediatric Cohort

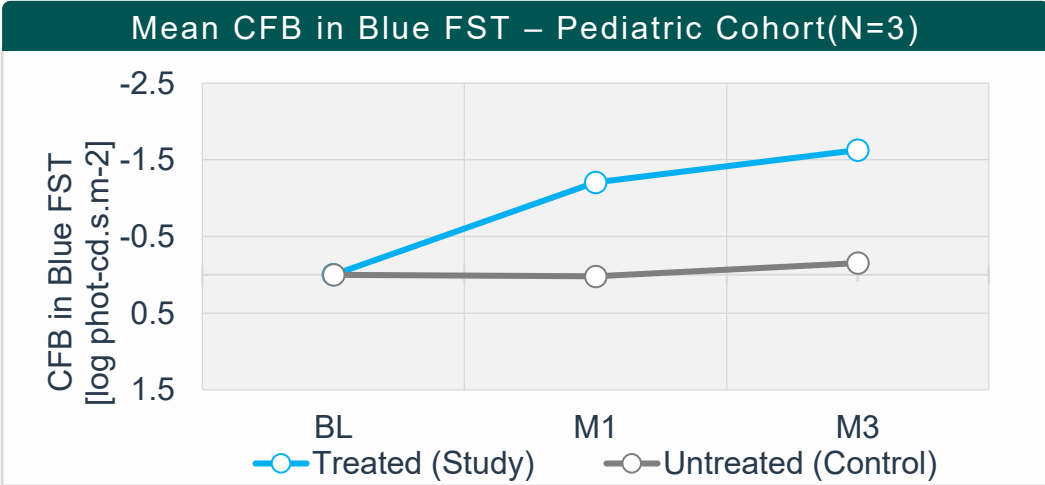
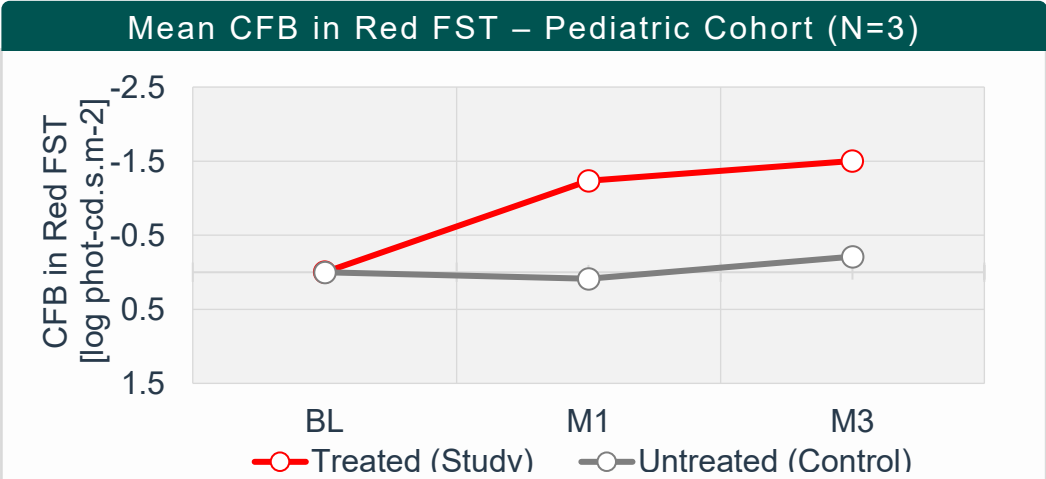
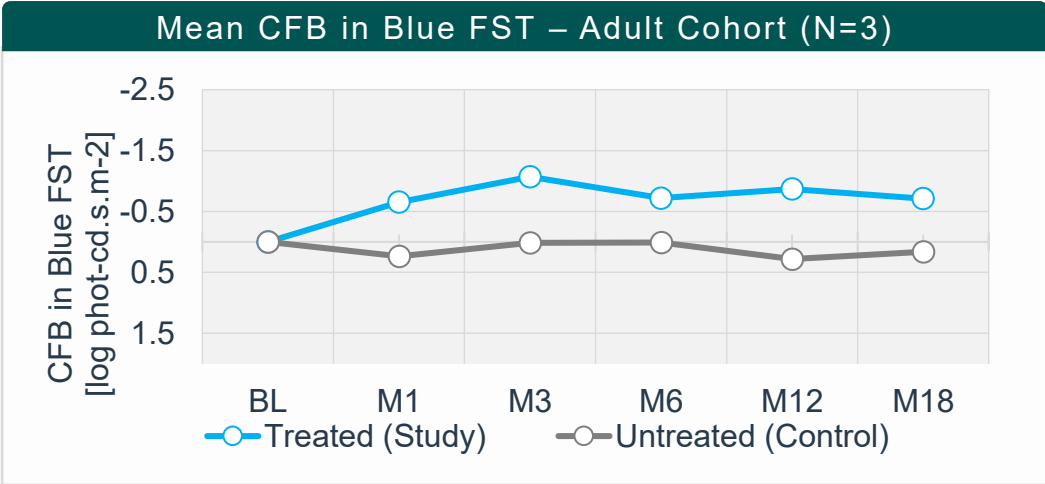
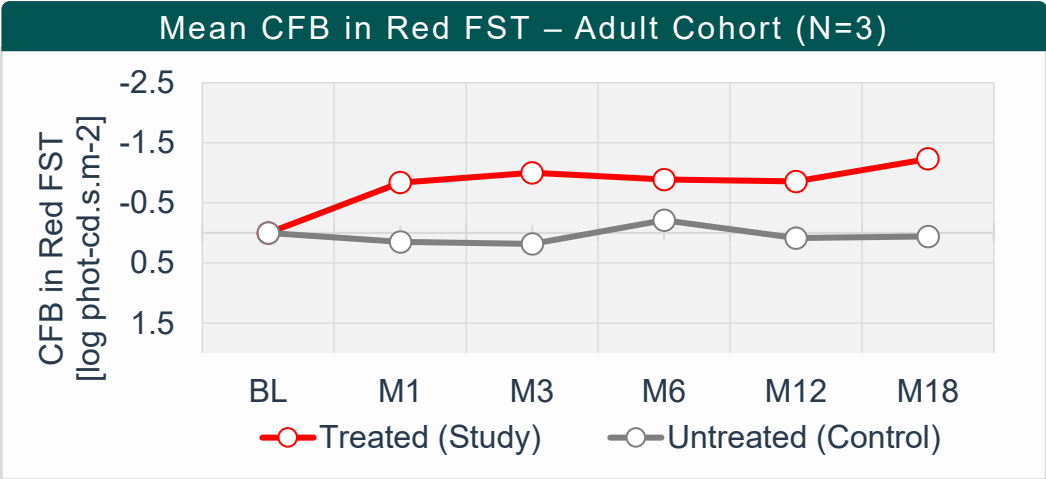
Mean Change from Baseline (CFB) in VA
Adult Cohort (N=3)



Mean Change from Baseline (CFB) in VA
Pediatric Cohort (N=3)

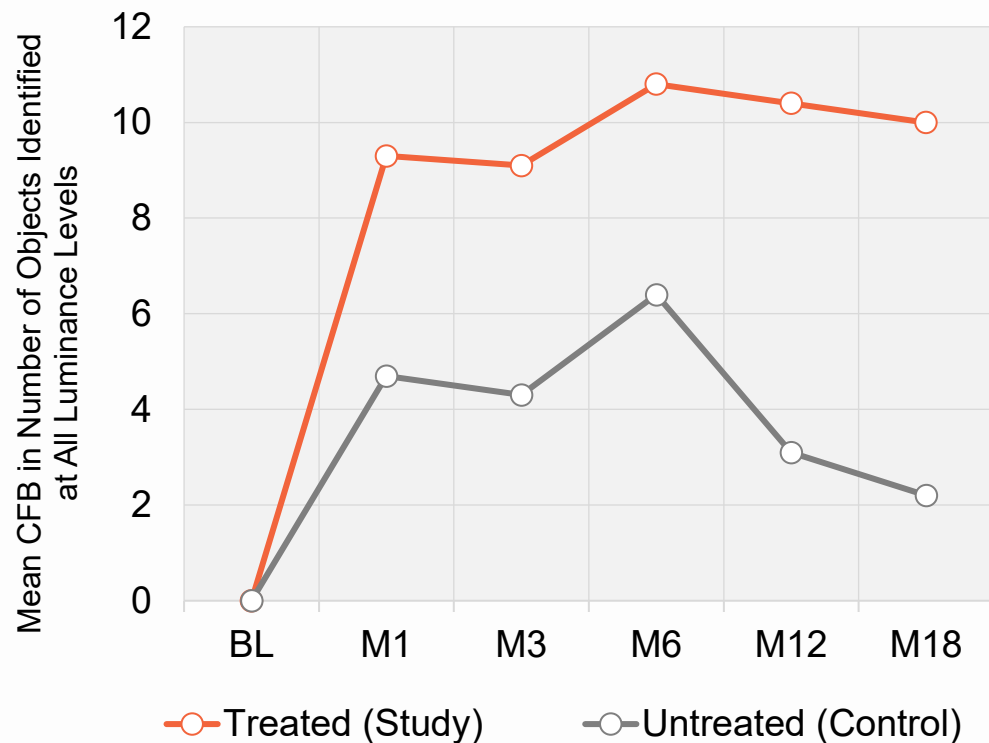


Full-Field Stimulus Test (FST) Demonstrated Durable Vision Improvement

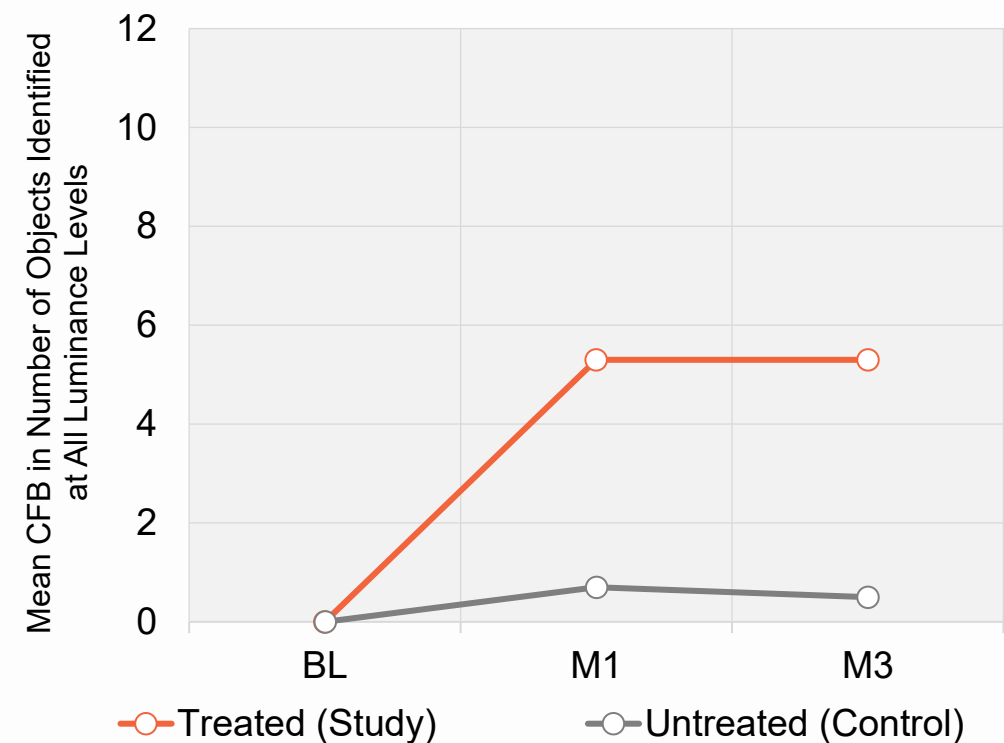


Treated Eyes Identified More Objects on the Virtual Reality Mobility Test

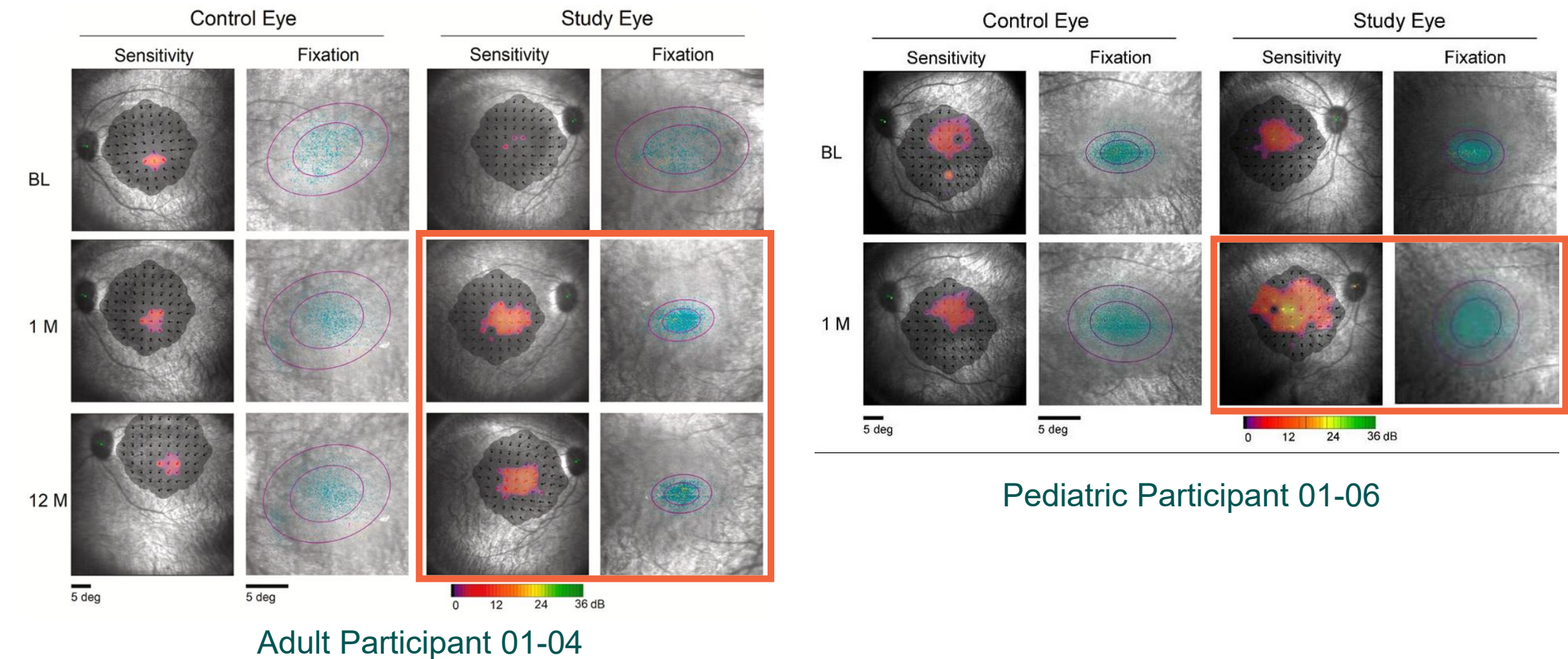
Mean Change from Baseline in MLoMT
Adult Cohort (N=3)



Mean Change from Baseline in MLoMT
Pediatric Cohort (N=3)



Microperimetry Data Provides Evidence of Increased Sensitivity and Movement of Fixation Toward the Fovea



OPGx-LCA5 Program Positioned for Rapid Advancement

-  **Excellent safety data** in all participants with follow-up out to 18 months in adult cohort
-  **Robust biologic activity** corroborated through multiple functional outcomes:
 - VA and FST improvements in 5 out of 6 participants suggest enhanced visual perception and clarity
 - Improvement in MLoMT translates to potential improved ability to navigate the environment and perform daily activities
-  **Rare Pediatric Disease, Orphan Drug and Regenerative Medicine Advanced Therapy designations** received from the FDA; potential eligibility for Priority Review Voucher upon BLA approval
-  **Successful Type B RMAT meeting completed** with enrollment ongoing in run-in period for planned, adaptive Phase 3 trial

A Newton's cradle with several spheres, one of which is in motion, set against a dark teal background with a subtle grid pattern.

Partnered Asset: Phentolamine Ophthalmic Solution 0.75%

Global Partnership for Phentolamine Ophthalmic Solution 0.75%

Future double-digit royalty stream & potential development/commercial milestones up to \$130M[^]



All Three
Indications
Have Sizable
U.S. Patient
Populations

1

APPROVED: Pharmacologically-induced mydriasis¹

- 100M eye dilations conducted every year²

2

sNDA SUBMITTED with PDUFA on 10/17/26: Presbyopia

- Progressive loss of ability to focus on close objects results in blurred near vision and eye strain
- 133M presbyopes³

3

Phase 3 ONGOING: Dim light disturbances in keratorefractive patients

- 600-700K laser vision correction procedures per year⁴;
35% of LASIK patients report dim light disturbances⁵

[^]\$10M milestone payment received upon approval of the first indication for Phentolamine Ophthalmic Solution 0.75%; 1. Ryzumvi. Approved for reversal of pharmacologically-induced mydriasis produced by adrenergic agonists (e.g., phenylephrine) or parasympatholytic agents (e.g., tropicamide) Prescribing Information. Ocuphire Pharma, Inc.; 2023. 2. Wilson FA, et al. *J Ophthalmol.* 2015;2015:435606. 3. Berdahl J, et al. *Clin Ophthalmol.* 2020;14:3439-3450. Phase 3 trial being conducted in keratorefractive patients with visual disturbances under mesopic, low-contrast conditions; 4. Lindstrom RL. *Ocular Surgery News.* April 1, 2019. Accessed February 9, 2025. <https://www.healio.com/news/ophthalmology/20190329/millennials-will-be-the-next-target-for-laser-vision-correction> 5. Mamalis N. *J Cataract Refract Surg.* 2014;40:343-344. LASIK, laser assisted in situ keratomileusis.

Differentiated MOA of Phentolamine is Designed to be Well-Suited for Presbyopia and Decreased Visual Acuity Under Low Light Conditions

STUDIES TO DATE HAVE SHOWN:



Favorable tolerability profile, with no reported incidence of retinal tears or retinal detachment, and minimal to no headaches or dimming



Fast onset of action and extended durability, with reduction of pupil size lasting over 20 hours



Once-daily evening dosing enables improved near vision immediately upon awakening



Objective

Provide a safe, long-lasting and effective solution that restores near vision and enhances overall visual performance in daylight and low-light conditions

Leveraging an Efficient Platform for Clinical and Commercial Success

Highlights

- Multi-asset pipeline with significant projected data readouts and milestones
- Two lead gene therapy programs in clinical trials with positive initial results and new data expected in 2026
- Five gene therapy programs expected in the clinic by 2027
- First mover advantage in target IRDs
- Meaningful ex. U.S. markets
- sNDA submitted for partnered presbyopia treatment

Financials

- Ticker: IRD
- Cash balance: ~\$100 million*
- Runway: Expected funding into 2029
- Common shares outstanding: 69,894,507[^]

Expected Catalysts

- ✓ BEST1: Initial data in Q1 2026
- BEST1: Cohort 1 three-month results in mid-year 2026
- LCA5: Six-month pediatric data in Q2 2026
- LCA5: Phase 3 dosing in H2 2026
- Three additional gene therapy programs enter clinical testing
- Phentolamine Ophthalmic Solution 0.75%
 - Presbyopia: FDA PDUFA date of 10/17/26
 - Dim Light Disturbances: Phase 3 topline results in H1 2026



Nasdaq: IRD

*“Impossible is a
dare to science.”*

– Will Reeve, Good Morning America
feature story on Opus LCA5 patient

