ProQR®

INTERIM ANALYSIS: PHASE 1/2 TRIAL OF QR-421A IN USHER & NSRP

March 31, 2020

Forward looking statements

This press release contains forward-looking statements. All statements other than statements of historical fact are forward-looking statements, which are often indicated by terms such as "anticipate," "believe," "could," "estimate," "expect," "goal," "intend," "look forward to", "may," "plan," "potential," "predict," "project," "should," "will," "would" and similar expressions. Such forward-looking statements include, but are not limited to, statements regarding QR-421a, and the clinical development and the therapeutic potential thereof, our other programs and business operations, including timing of commencing clinical trials and enrollment of patients therein, the expected impact of the COVID-19 on our business operations, including our research and development plans and timelines and the supply chain for our clinical and development programs, and our financial position and cash runway. Forward-looking statements are based on management's beliefs and assumptions and on information available to management only as of the date of this press release. Our actual results could differ materially from those anticipated in these forward-looking statements for many reasons, including, without limitation, the risks, uncertainties and other factors in our filings made with the Securities and Exchange Commission, including certain sections of our annual report filed on Form 20-F. These risks and uncertainties include, among others, the cost, timing and results of preclinical studies and clinical trials and other development activities by us and our collaborative partners whose operations and activities may be slowed or halted by the COVID-19 pandemic; the likelihood of our clinical programs being executed on timelines provided and reliance on our contract research organizations and predictability of timely enrollment of subjects and patients to advance our clinical trials and maintain their own operations; our reliance on contract manufacturers to supply materials for research and development and the risk of supply interruption from a contract manufacturer; the potential for future data to alter initial and preliminary results of early-stage clinical trials; the unpredictability of the duration and results of the regulatory review of applications or clearances that are necessary to initiate and continue to advance and progress our clinical programs; the ability to secure, maintain and realize the intended benefits of collaborations with partners; the possible impairment of, inability to obtain, and costs to obtain intellectual property rights; possible safety or efficacy concerns that could emerge as new data are generated in research and development; and general business, financial and accounting risks and litigation. Given these risks, uncertainties and other factors, you should not place undue reliance on these forward-looking statements, and we assume no obligation to update these forward-looking statements, even if new information becomes available in the future, except as required by law.

QR-421a RNA therapy

For USH2A mediated Usher syndrome and non-syndromic retinitis pigmentosa

QR-421a for USH2A

Designed to treat genetic vision loss in Usher syndrome and non-syndromic RP

RNA therapy for Usher & nsRP

Develop hearing and vision loss in childhood and are completely blind by mid adulthood

***USH2A* exon 13** mutations affect **~16,000** patients in Western world

Approximately 15-25% has exon 13 mutations on both alleles

Partnership

Awarded $7.5M financial support from FFB to conduct trial

Unmet need

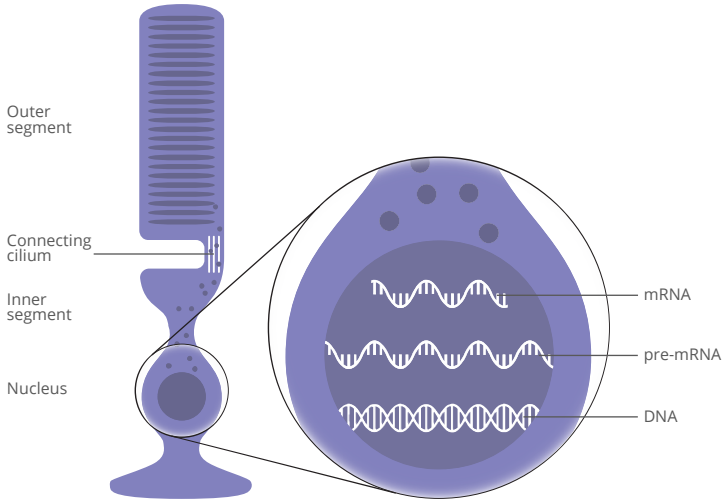
For ***USH2A* exon 13** no therapy available

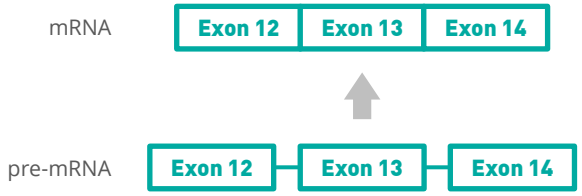
- ✓ RNA is established modality in eye
- ✓ Strong preclinical proof of concept in patient-derived retinal model
- ✓ Orphan drug designation & Rare pediatric disease designation
- ✓ Fast track designation

QR-421a is targeted to

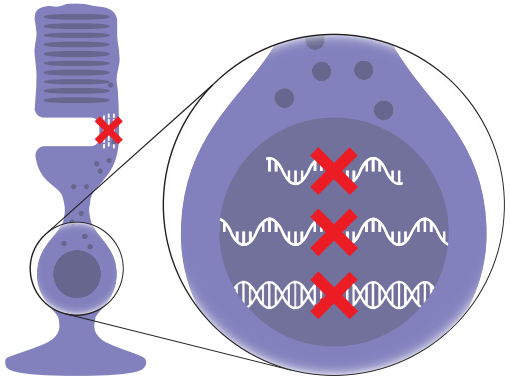
- Reverse vision loss or stop disease progression
- Eventually treat asymptomatic patients based on genetic diagnosis

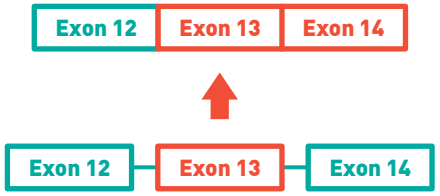
Usher syndrome disease background



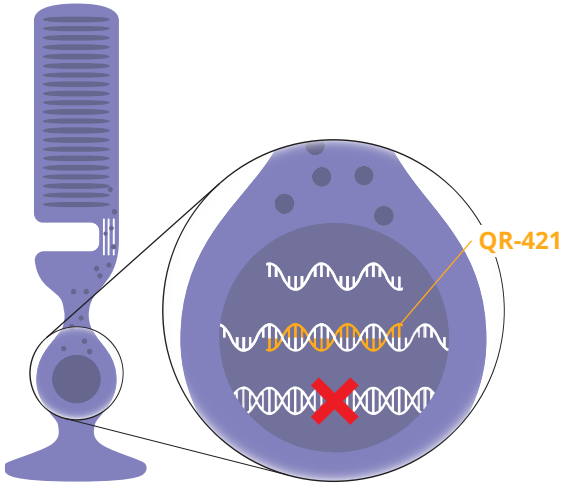


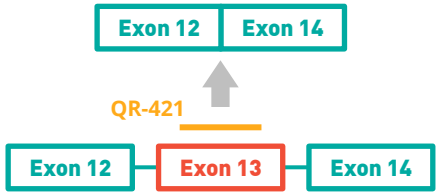
In wild type cells usherin enables protein transport through the connecting cilium





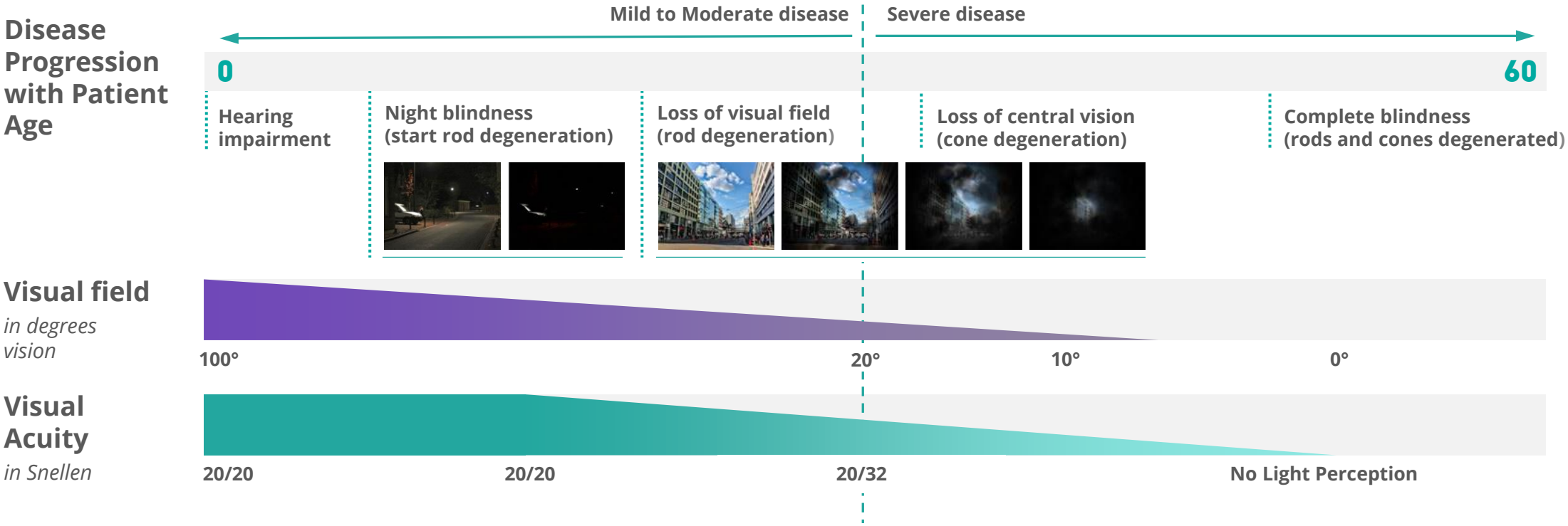
In cells with the USH2A mutation usherin is not active, hampering protein transport over the cilium





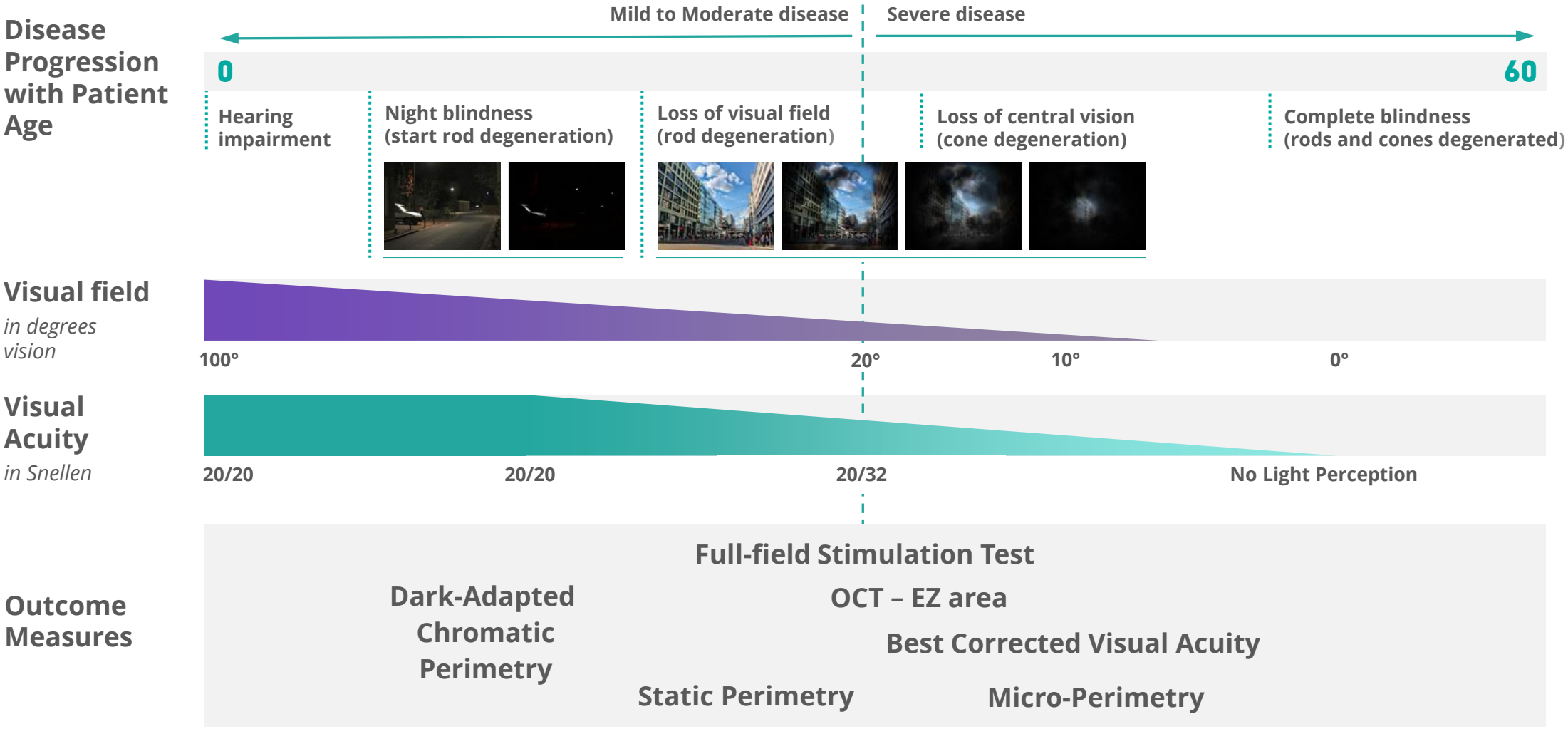
Exclusion of the exon harboring the mutation leads to restoration of functionality of usherin

Disease progression and endpoints



Ranges are illustrative, not exact

Disease progression and endpoints



Ranges are illustrative, not exact

Trial design & demographics

Objectives, trial design and baseline characteristics

Key trial goals/objectives

- Establish early safety and tolerability
- Characterize early examples of functional target engagement and if present, duration of benefit to inform dosing interval

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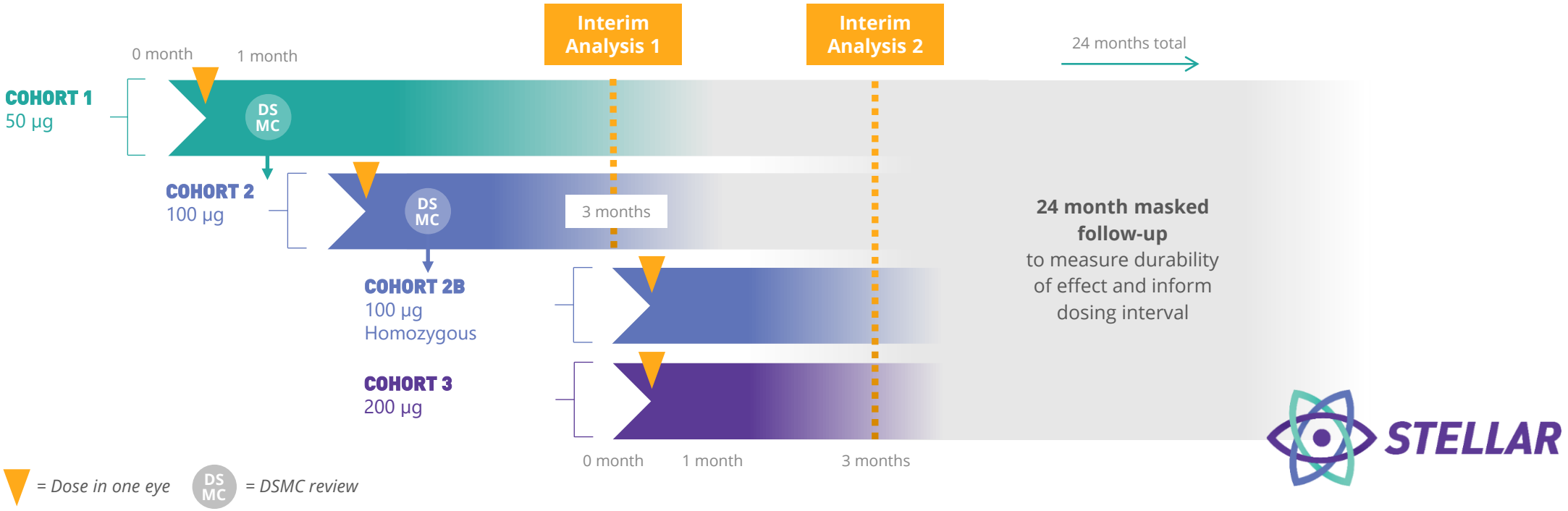
- Assess utility of various outcome measures in moderate versus advanced disease
- Inform further dose-ranging and the subject enrichment strategy for next steps in development
- Characterize the contributions of drug dose and gene dose
- Follow treatment-responsive subjects to characterize the duration of response and estimate the dosing interval

STELLAR

QR-421a Phase 1/2 trial in Usher & nsRP

~200 day half-life allows for informative single dose FIH trial design



***Stellar* Phase 1/2 trial**

- Randomized, single ascending dose, global multicenter, longitudinal, 24-months study
- Goals include safety and efficacy
- Inclusion criteria: visual field of ≥10°

Key endpoints include:

- Visual acuity (VA): Best-Corrected VA and Low Luminance VA
- Retinal structure: EZ-area on SD-OCT
- Patient Reported Outcomes
- Visual Field (VF) and retinal sensitivity: Microperimetry, static perimetry, dark-adapted chromatic perimetry, full-field stimulus threshold test

Trial population baseline characteristics

Cohort	Genotype	Phenotype	Visual impairment severity	Months of follow-up
50µg (n=4)	3 homozygous 1 heterozygous	2 Usher 2 nsRP	2 mild-moderate 2 severe	6-11
100µg (n=4)	0 homozygous 4 heterozygous	2 Usher 2 nsRP	3 mild-moderate 1 severe	3-4
Sham (n=6)	1 homozygous 5 heterozygous	2 Usher 4 nsRP	5 mild-moderate 1 severe	3-9

Interim results

Safety & tolerability, efficacy and next steps

Safety and tolerability

A total of more than 1350 subject-treatment days at time of IA

- No serious ocular or non-ocular Adverse Events.
- No evidence of inflammation.
- No treatment-associated cataracts.
- No cases of cystoid macular edema or retinal thinning.

25% of treated subjects defined as responder

1 of 3 homozygous versus 1 of 5 heterozygous subjects demonstrated benefit in multiple outcome measures v. untreated eye

Pattern of Benefit

Subject	Baseline visual impairment	Genetic background	Dose	Days	OCT EZ area	DAC	FST	BCVA
Responder 1	Moderate	Homozygous	50µg	270	✔	✔	✔	
Responder 2	Severe	Heterozygous	100µg	120		✔	✔	✔

Mild-moderate disease informative

Severe disease informative

✔ = *Benefit* ☐ = *No change*

Responder 1

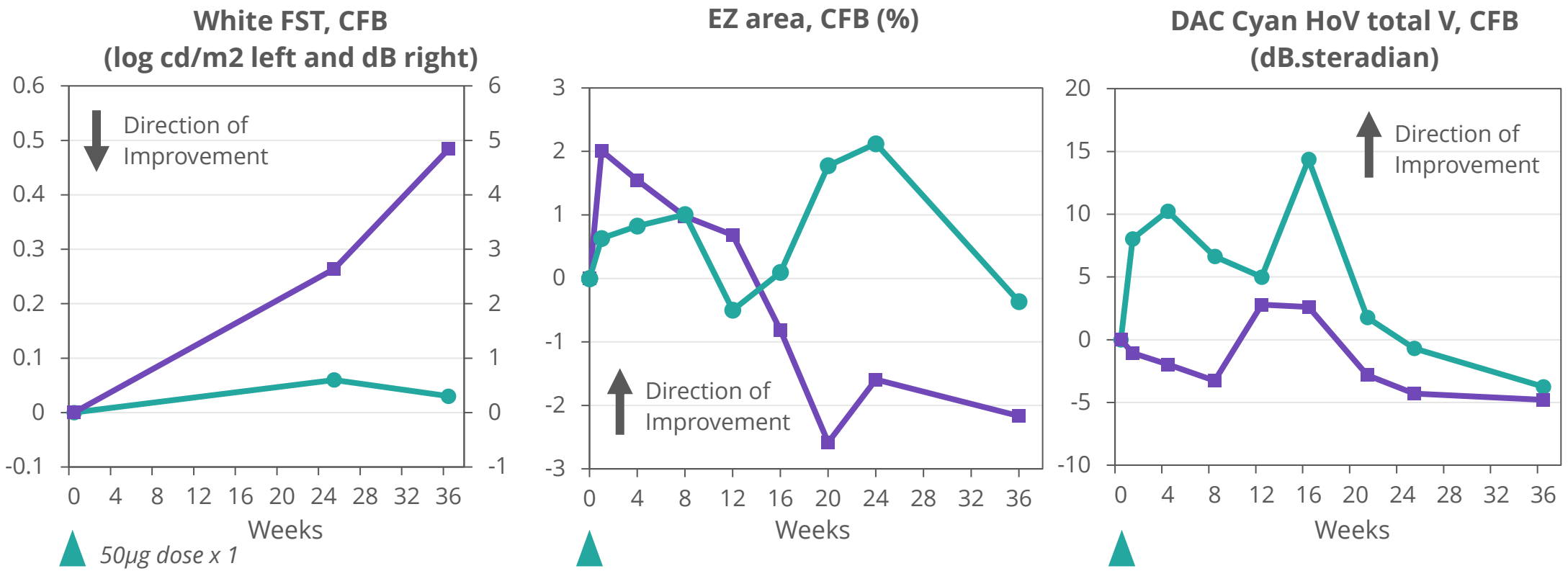
Baseline demographics

- Age/Gender: 30 yo, Female
- Genetic background: Homozygous
- Visual impairment: Moderate
- Visual acuity (BCVA):
  - left eye – 74 letters (Snellen 20/32)
  - right eye (treated) – 70 letters (Snellen 20/40)

- Received a single 50µg dose

Responder 1

Concordant benefit in FST, EZ area and DAC relative to untreated eye (change from baseline)



Waning response at later time points informs dosing interval

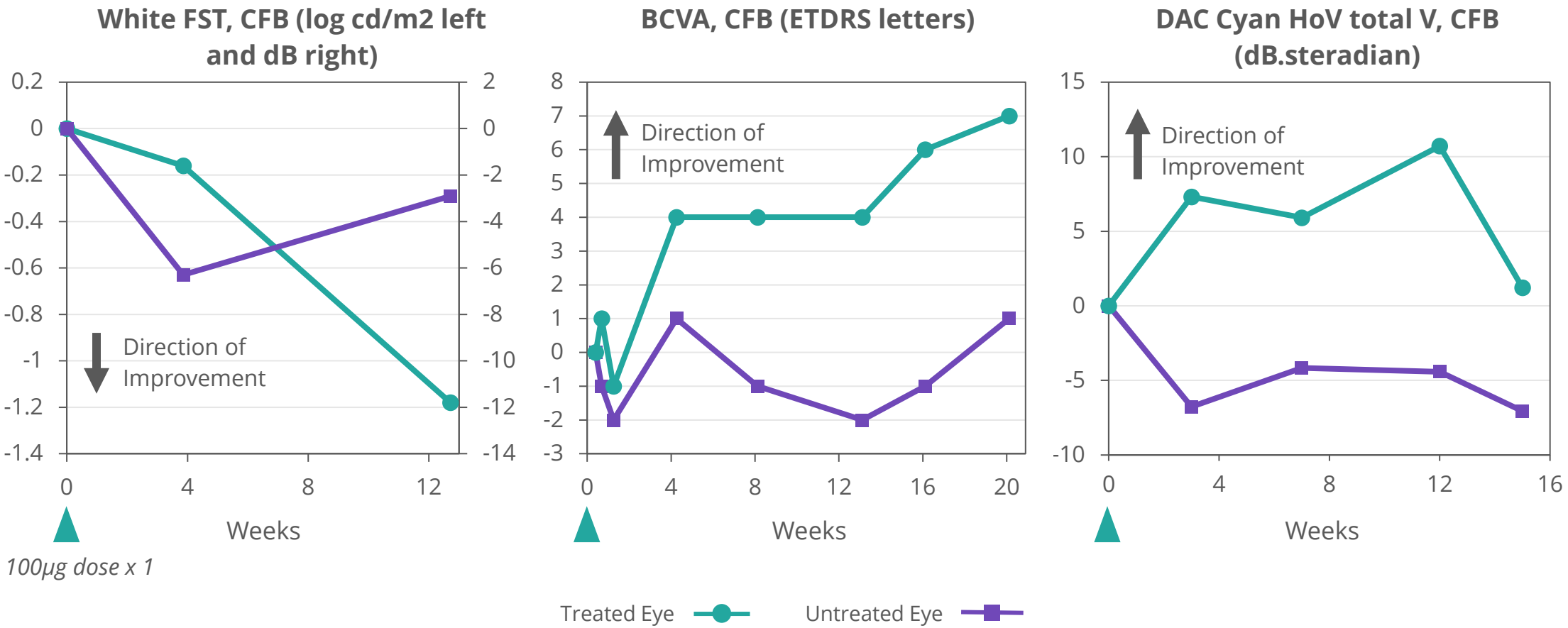
Responder 2

- Baseline demographics
- Age/Gender: 60 yo, Male
- Genetic background: Heterozygous
- Visual impairment: Severe
- Visual acuity (BCVA):
  - Left eye (treated) – 33 letters (Snellen 20/250)
  - Right eye – 35 letters (Snellen 20/200)

- Received a single 100µg dose

Responder 2

Concordant improvement in FST, BCVA and DAC relative to untreated eye (change from baseline)



100µg dose x 1

Efficacy summary and trial adaptation

- 2 of 8 QR-421a-treated subjects demonstrated treatment benefit
- 0 of 6 sham-treated subjects met the responder definition
- Early evidence of efficacy at the lower two dose levels tested provide further validation of our platform technology
- Early responder data provide guidance for adaptation of the trial, including
  - Enrichment for homozygous exon 13 mutation subjects in the 100µg dose
  - Dose escalation to a 200µg dose cohort

Progress against trial goals

- ✓ Establish early safety and tolerability
- ✓ Characterize early examples of functional target engagement and if present, duration of benefit to inform dosing interval

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- ✓ Assess utility of various outcome measures in moderate versus advanced disease
- ✓ Inform further dose-ranging and the subject enrichment strategy for next steps in development
- ☐ Characterize the contributions of drug dose and gene dose
- ☐ Follow treatment-responsive subjects to characterize the duration of response and estimate the dosing interval

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IT'S IN OUR RNA