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Kiora Pharmaceuticals, Inc.

NASDAQ: KPRX

Q2 2023 | Corporate Overview

Forward Looking Statements

Some of the statements in this presentation are "forward-looking" and are made pursuant to the safe harbor provision of the Private Securities Litigation Reform Act of 1995. These "forward-looking" statements include statements relating to, among other things, the development and commercialization efforts and other regulatory or marketing approval efforts pertaining to Kiora's products, including KIO-101, KIO-201 and KIO-301, as well as the success thereof, with such approvals or success may not be obtained or achieved on a timely basis or at all. These statements involve risks and uncertainties that may cause results to differ materially from the statements set forth in this presentation, including, among other things, market and other conditions and certain risk factors described under the heading "Risk Factors" contained in Kiora's Annual Report on Form 10-K filed with the SEC on March 23, 2023, or described in Kiora's other public filings. Kiora's results may also be affected by factors of which Kiora is not currently aware. The forward-looking statements in this presentation speak only as of the date of this presentation. Kiora expressly disclaims any obligation or undertaking to release publicly any updates or revisions to such statements to reflect any change in its expectations with regard thereto or any changes in the events, conditions, or circumstances on which any such statement is based, except as required by law.

Corporate Highlights

Developing Therapeutics for Rare & Underserved Ophthalmic Diseases

Priority Asset – KIO-301: Vision Restoration in Retinitis Pigmentosa (RP)

- Small molecule "photoswitch" is gene mutation agnostic, easy to deliver
- Study fully enrolled, dosing ongoing
- Case study presented in Q2 2023, anticipate full results in Q4 2023

KIO-101: Ocular Surface Disease in Rheumatoid Arthritis & Other Autoimmune Diseases (OPRA+)

- Small molecule inhibitor of a validated, disease modifying target
- First patient, first visit in Q2 2023
- Anticipate full results in Q3 2024

KIO-201: A Novel, Modified Hyaluronic Acid (HA) Molecule for Ocular Wound Healing

- Successful Phase 2 Persistent Corneal Epithelial Defects (PCED) trial
- Results reported in Q2 2023
- Initiate discussions with FDA for registration trial in 2H 2023

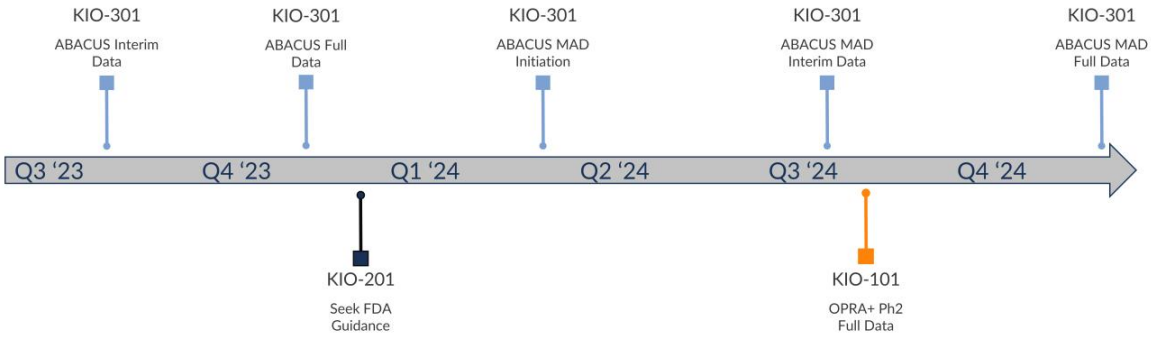
Efficient operating structure with low monthly burn (~$850K)

Diverse Pipeline Offers Near Term Milestones

	Indication	Product Formulation	Development Stage			
			Pre-clinical	Phase 1	Phase 2	Phase 3
Posterior Segment	Retinitis Pigmentosa (Mutation Agnostic)	KIO-301 IVT*	*Granted Orphan Drug Designation – March 2022*			
Anterior Segment	Ocular Presentation of Rheumatoid Arthritis +	KIO-101 Eye Drop				
	Persistent Corneal Epithelial Defects	KIO-201 Eye Drop				

* IVT – Intravitreal Injection

Upcoming Milestones



KIO-301

Vision Restoration in Retinitis Pigmentosa

Initially Targeting RP

A Disease with No Available Treatments

Normal Vision

Vision Declines over Time

Clinical Presentation

- Night blindness, reduced visual field range and eventual loss of central vision
- Visual acuity declines
- 50% of patients are not qualified to drive by age 37 and legally blind by 55

Etiology

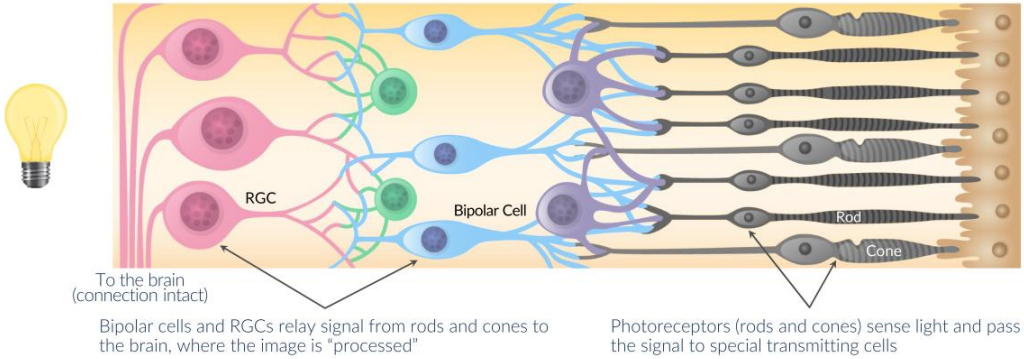
- 50+ genetically distinct subtypes from 150+ mutations
- Inherited disease

Market Opportunity

- ~100k patients in US (Provider: Retina Specialists [~3k])
- Estimated Total Cost to US Healthcare System in 2019: $3.7B

IOVS: Visual Field Progression in Retinitis Pigmentosa, American Academy of Ophthalmology, Clinical Ophthalmology 2021:15 2855–2866

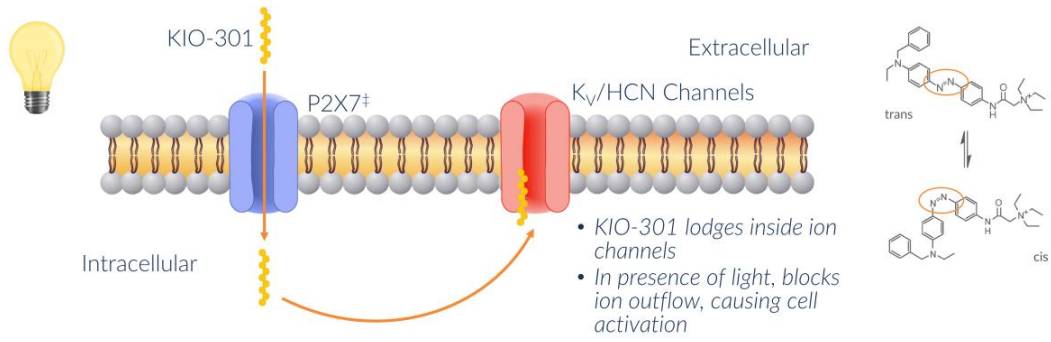
Downstream Neurons Remain Viable in RP



- RP results in death of photoreceptors
- Bipolar cells and Retinal Ganglion Cells (RGCs) remain intact and retain ability to send signals to the brain

KIO-301 (MOA): Turns RGCs "ON" in the Presence of Light

- In RP, photoreceptors die → downstream neurons (RGCs) are not capable of being activated
- KIO-301 preferentially enters these RGCs and turns them "ON" in the presence of light*



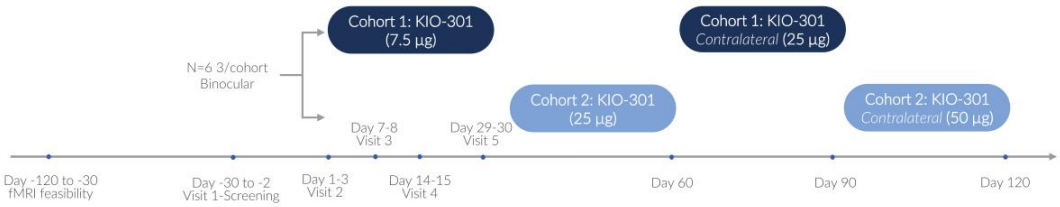
‡ P2X7 is solely expressed on RGCs and amacrine cells in the retina

* Visual light causes reversible isomeric shift, blocking ion efflux through K_V/HCN channels

Neuron. 92, 100-113 (2016)

KIO-301-1101: Phase 1b Study Design (ABACUS)

Open Label, Single Ascending Dose Trial – 2 Sites (Australia)



Study Design
- Two cohorts, non-randomized, open-label, single IVT injection per eye
- Cohort 1- NLP/BLP patients; Cohort 2 – HM/CF patients

Endpoints
- Primary - AEs, PK & labs
- Secondary - Assessment days (shown only for Cohort 1 above) is repeated for each cohort per eye; intensity & contrast assessment, kinetic perimetry, functional MRI, etc.

Review
- Safety review conducted by Investigators between after sentinel subject

KIO-301: ABACUS Aims

1. Demonstrate Proof-of-Mechanism
   - Reanimating the retina
2. Explore objective assessments in these cohorts
   - No predefined approvable endpoints in ultra-low vision patients
3. Obtain patient feedback
   - What patients report is important at this stage
4. Do all of the above in an environment of safety and tolerability

KIO-301: ABACUS – What is Measured?

	Assessment	Description
Objective	Intensity & Contrast	Light Perception
	Goldmann Perimetry	Visual Field
	MLOM	Suite of 'functional' tests
	fMRI	Cortical Imaging
Subjective	Interviews	Subject Feedback
	VFQ-25	Quality of Life (QoL) Survey

KIO-301: ABACUS - Subject Status Update

	Subject ID	1st Eye Completed*	Dose	Responder‡	2nd Eye Completed*	Dose	Responder‡
Cohort 1 NLP/BLP	1-01	Completed	7.5 µg	✓	Completed	25 µg	✓
	1-02	Completed	7.5 µg	✓	In-process	25 µg	
	1-04	Completed	7.5 µg	✓	To Be Scheduled	25 µg	
Cohort 2 CF/HM	1-03	In-process	25 µg		To Be Scheduled	50 µg	
	1-05	Completed	25 µg	✓	To Be Scheduled	50 µg	
	1-06	In-process	25 µg		To Be Scheduled	50 µg	

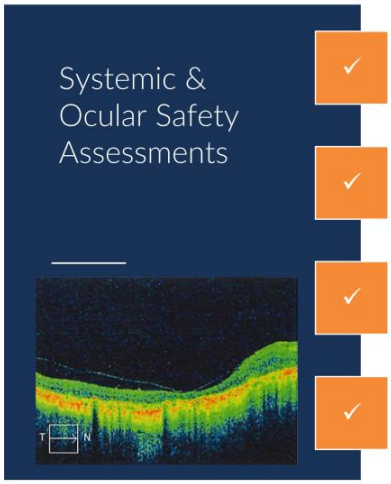
* - assessments completed; data subject to availability (e.g., data entry, processing, QC, etc.)
‡ - positive objective response above baseline at any timepoint

KIO-301: ABACUS Completed Subjects – Responder Matrix*

Subject ID	Intensity & Contrast	Visual Field	MLOM	fMRI	VFQ-25 (QoL)	Subject Feedback	Dose Response
1-01							
1-02			N/A				In-process
1-04	N/A			In-process			In-process
1-05	N/A			In-process	In-process		In-process

*+ve objective response above baseline at any timepoint; N/A – testing not appropriate for level of vision or baseline ≥ 90%

KIO-301: ABACUS Safety & Tolerability



Safe & Well Tolerated‡

- Slit-lamp – abnormal baseline corneal keratopathy; no changes observed compared to baseline.
- IOP – all patients normal and no change to baseline, except 1 patient had bilateral increase in IOP (21→27 mmHg). Rapidly responded to pharmacological intervention (timolol).
- Dilated Fundus w/ photography* - abnormal at baseline (consistent with RP); no change to baseline.
- OCT - no macula edema, no change in thickness.

‡ Mild; IOP increase coded as possibly related; eye soreness after injection coded as unrelated
* Performed within 6 hours of injection & Day 29

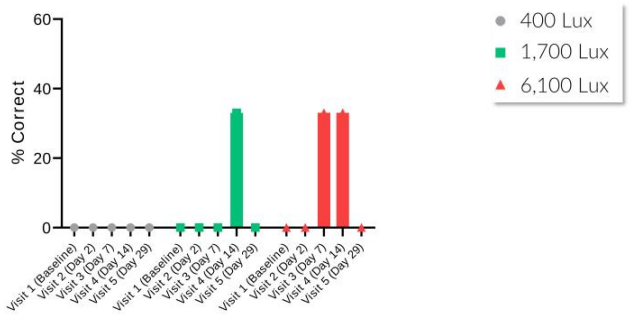
PT 1-02: Intensity & Contrast Assessment*

Visit 1 (Baseline)

Visit 3 (Day 7)

* - A series of six (6) visual stimuli ("X" at logMAR 2.0) presented to the patient at 3 light intensities

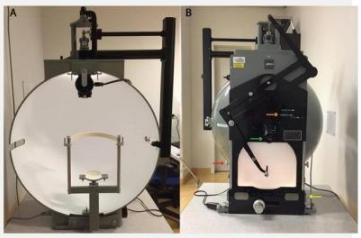
Pt 1-02: Intensity & Contrast Assessment



Key Takeaways:

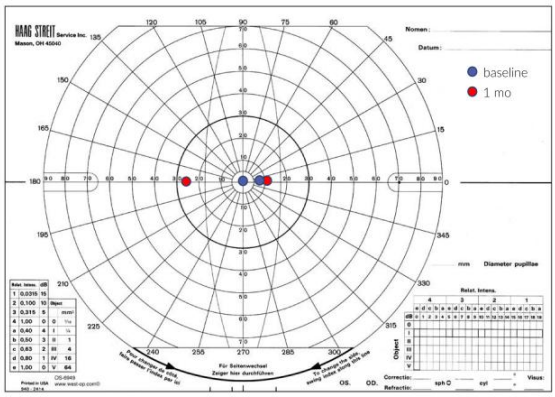
- Light perception increases over first 2 weeks following injection
- Return to baseline expected

Kinetic Visual Field
Goldmann Haag-Streit



- Assessment by orthoptists
- Measure total horizontal and vertical degrees

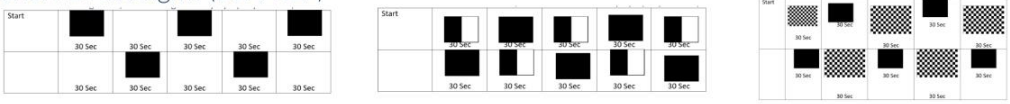
Pt1-01



	Total Horizontal Degrees-OD	Total Vertical Degrees-OD
Baseline	8	9
1-month	28	14

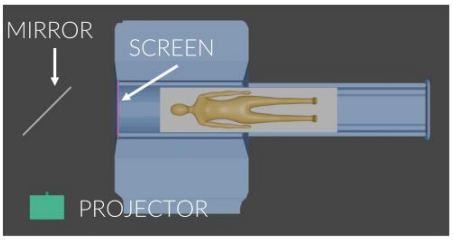
Functional MRI – Setup & Analysis

Cohort 1 Paradigms (BLP/NLP)



Processing and Analysis

- BOLD signal acquired
- Preprocessing (e.g., spatial normalization)
- Quantitative analysis using FSL (GLM) - ongoing



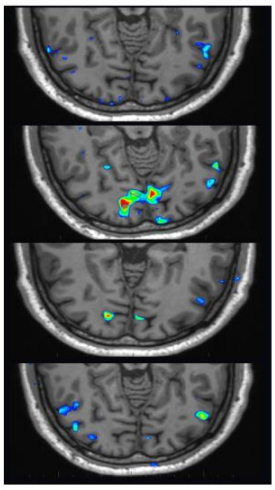
Pt 1-02: fMRI – Qualitative Overlap of 3 Paradigms

Visit 1
(Baseline)

Visit 2
(Day 3)

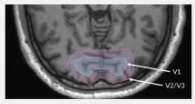
Visit 4
(Day 15)

Visit 5
(Day 30)

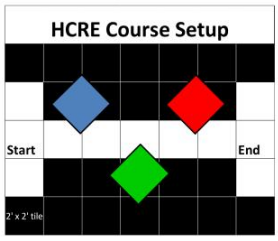


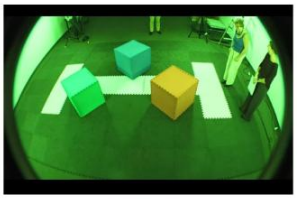
Key Takeaways

- Clear striate (V1) increase in activity at Visits 2 & 4 compared to Visit 1
- Visit 5 returns to similar activity as baseline



MLOM Example (High Contrast Room Exit - HCRE)





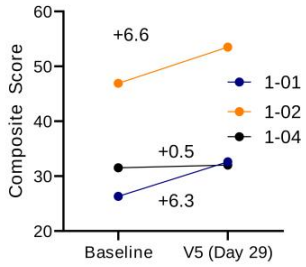
Baseline

Visit #5 (Day 28)

A test of functional vision
Suited best for CF/HM Patients (Cohort 2)

#1-05	Visit #	Pass/Fail
	V1 (Baseline)	fail
	V2 (Day 2)	fail
	V3 (Day 7)	pass
	V4 (Day 14)	pass
	V5 (Day 28)	pass

KIO-301: ABACUS Quality of Life Survey (VFQ-25)



NEI-VFQ-25 administered at Visits 1 & 5

2 - 4 point increase is accepted by payers as clinically meaningful*

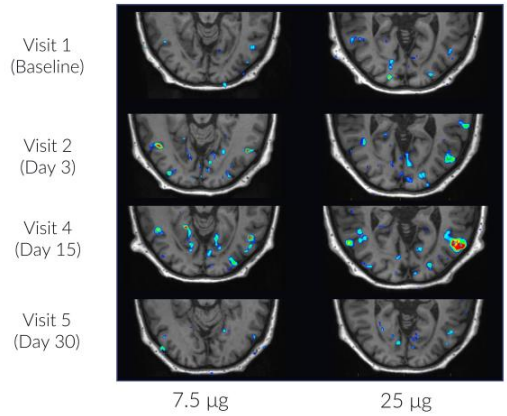
** - HMSA Medical Policy – Luxturna - 2022*

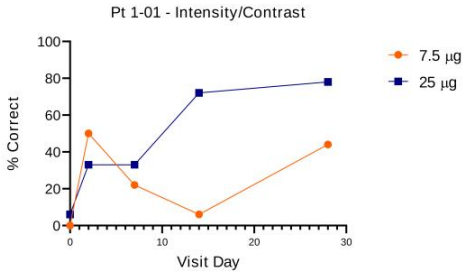
PROs: Direct Feedback Interviews

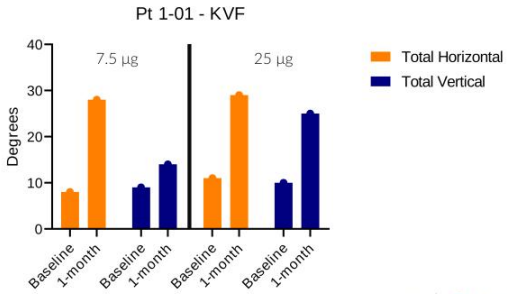
Subject 1-02

Subject 1-05

Dose Response Observed







KIO-301: ABACUS Key Takeaways

- ✓ Intravitreal KIO-301 is safe and tolerable, to date
- ✓ All patients treated demonstrate objective and subjective responses
- ✓ Dose response
  - ✓ Appears to have more robust response & longer duration of effect
- ✓ Enrollment complete, dosing ongoing with full data expected in Q4 2023

Beyond RP for Photoswitch Platform

Indications

- Other inherited retinal diseases (rod-cone dystrophies, choroideremia, ...)
- Age-related macular degenerative diseases
  > Geographic atrophy
  > Late-stage wAMD
- In combination with any and all gene-replacement therapies
- Screening for optogenetics

Expanding Exclusivity

- Protected through at least 2041 with combination of formulation, methods, and CoM patents
- Orphan Drug Designation regulatory protection

Retinal Disease Therapies Experiencing Strong Adoption

Indication	Therapies & Pricing	Patients
Wet AMD	Vabysmo (Roche): $13,140 year 1, $6570 after Eylea (Regeneron): Wet AMD & DME, $16,000	8+ million (US)
Geographic atrophy	Syfovre (Apellis): $26,500 per year ($18.4 MM 1st Qtr of sales) Zimura (Astellas via $5.8 BB Iveric buyout): pricing TBD	1+ million (US)
LCA (*RPE65 gene defect*)	Luxturna (Roche via $4.3 BB Spark buyout): $850K per patient	180K (WW)
Retinitis Pigmentosa (*gene agnostic*)	KIO-301	100K (US)

KIO-101

Ocular Presentation of Rheumatoid Arthritis & Other Autoimmune Diseases (OPRA+)

KIO-101: Selectively Targets T-Cell Mediated Inflammation in the Eye

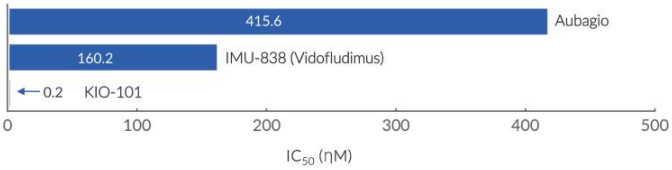
Disease-Modifying Antirheumatic Drugs are validated systemic therapeutics for patients with autoimmune diseases

- DHODH* is a validated target clinically and commercially
- $2B+ global sales in 2022‡

Systemic approaches do not deliver sufficient drug to ocular surface to drive:

- Decreases T_H cell function & proliferation locally
- Overcomes systemic delivery shortcomings

KIO-101 has Demonstrated Greater Specificity & Potency



*Dihydroorotate Dehydrogenase
‡ Sanofi 10-K 2022

Novel Approach to Address Major Need Among RA Patients & Beyond

Ocular Surface Discomfort is the Most Common Non-Articular Complaint

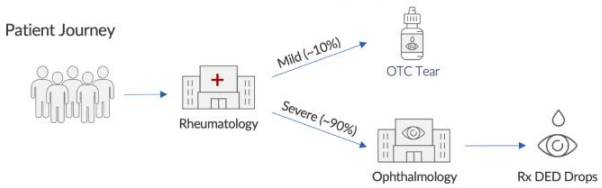
DHODH Inhibition Ideally Suited for OPRA+

- Immune system attack of synovial joints manifests similarly on the ocular surface

Large Addressable Population

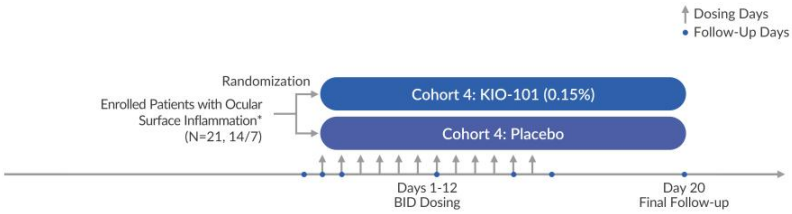
- US prevalence ~3.43M (ocular presentation of RA, psoriatic disease, SLE, or fibromyalgia)

Access Patients through Specialists



Rheumatol. Int. 2017 Sep;37(9):1551-1557. Eyenet Magazine. 2016 Nov;37-9. IVOS. 2015 Jun;56(7):4437.

KIO-101: Exploratory Phase 1b Ocular Surface Inflammation Trial

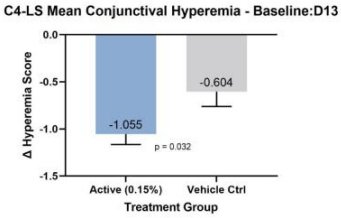


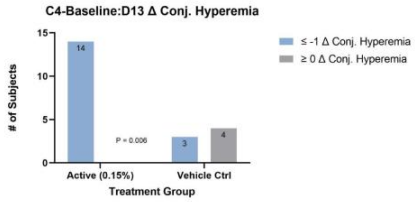
Study Design
- Two cohorts, randomized, double masked, placebo controlled
- OSDI ≥ 22, conjunctival hyperemia ≤ grade 2 (Efron Scale)

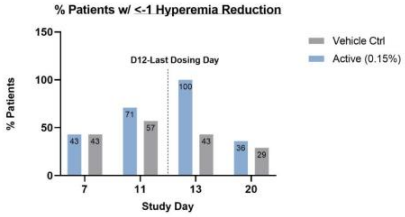
Outcome Measures
- Safety, AEs & PK
- OSDI, Conjunctival Hyperemia, Corneal Staining, Tear Break-Up Time

KIO-101-1101
Key Data Summary Slide*

Safety & Tolerability
- 0.15% was well tolerated in patients with ocular surface inflammation







* Presented April 26, 2022 @ American Society of Cataract & Refractive Surgery (ASCRS) Annual Conference

KIO-101: Phase 2 OPRA+

Randomized, Multicenter, Double Masked, Multiple Ascending Dose Trial

Study Design

- Three-arm, randomized (1:1:1), controlled, double masked, 90-day BID topical dosing
- Dx of RA (or other AI disease), conjunctival hyperemia, ODS-VAS
- Up to 120 patients

Outcome Measures

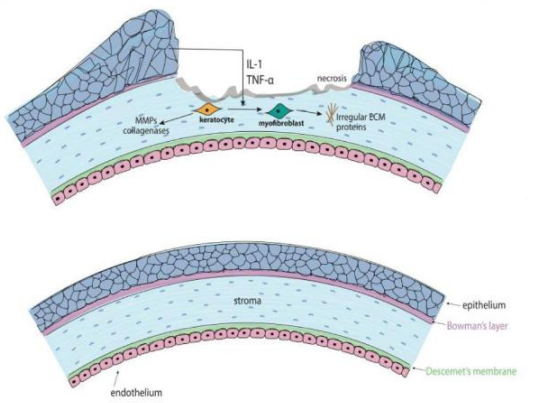
- ODS-VAS, Schirmer's, conjunctival hyperemia, corneal staining, other
- AEs & safety labs

ClinicalTrials.gov Identifier: NCT05629364

KIO-201

Proprietary, Modified Form of Hyaluronic Acid (HA) to Heal Challenging Ocular Surface Wounds

Persistent Corneal Epithelial Defects (PCED)

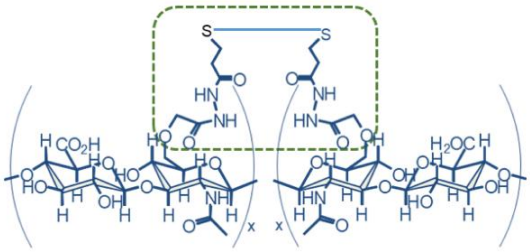


Unmet Medical Need (Orphan Indication)

- Failure of normal closure of a corneal injury in 10–14 days, despite standard of care
- SoC is sub-optimal and usually treated with Bandage Contact Lenses
  - High recurrence rates
  - High patient discomfort
- Only a few pipeline products in development
- Ideal therapeutics would:
  - Promote epithelium healing
  - Provide physical barrier to protect surface
  - Enables greater epithelial cell migration

** American Academy of Ophthalmology, Ocular Surgery News: April 10, 2019, Med. Hypothesis Discov. Innov. Ophthalmol. 8 (2019): 163-176.*

KIO-201: Proprietary, Cross-Linked Form of HA



Ideally Suited to Promote Healing

- HAs known to promote epithelium healing
- Provides physical barrier to protect surface
- Enables greater epithelial cell migration
- "Normal" HAs limited by residence time & blurring

Clinical Experience Across Multiple Trials

- 3 PRK surgical recovery (2 pilot, 1 pivotal*)
- 2 dry eye disease

* Regulated as a medical device until 2020

American Academy of Ophthalmology, Ocular Surgery News: April 10, 2019, Med. Hypothesis Discov. Innov. Ophthalmol. 8 (2019): 163-176.

KIO-201: Phase 2 PCED Study

Single-Arm, Open Label Trial

Study Design

- Single-arm, open label, 28 days 6x daily topical dosing
- Dx of Stage 1 or 2 PCED
- Up to 10 patients

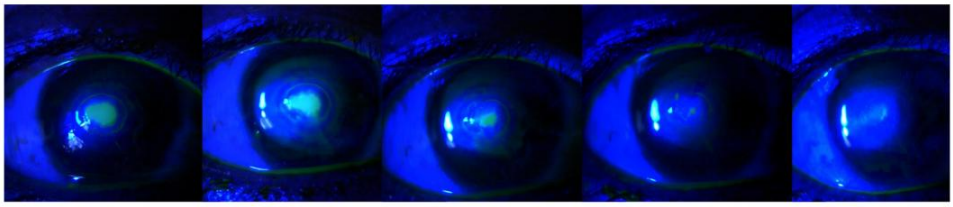
Outcome Measures

- Safety & tolerability
- % of patients healed (<0.5 mm lesion size) at week 4, time to complete healing

Data presented at ARVO 2023

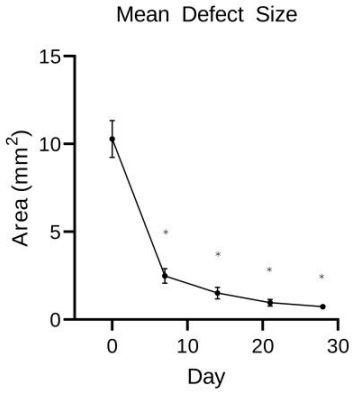
ClinicalTrials.gov Identifier: NCT05436288

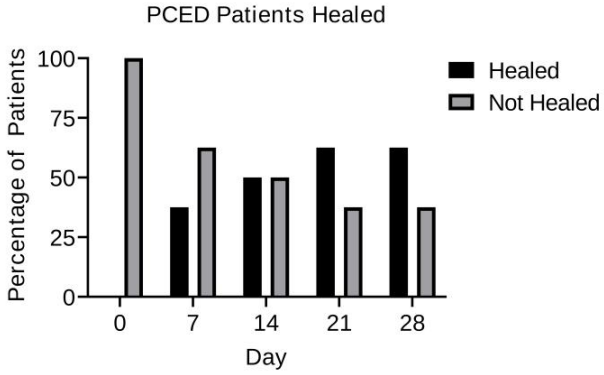
KIO-201: PCED Study Results



Fluorescein staining of a representative patient in the study

KIO-201: PCED Study Results





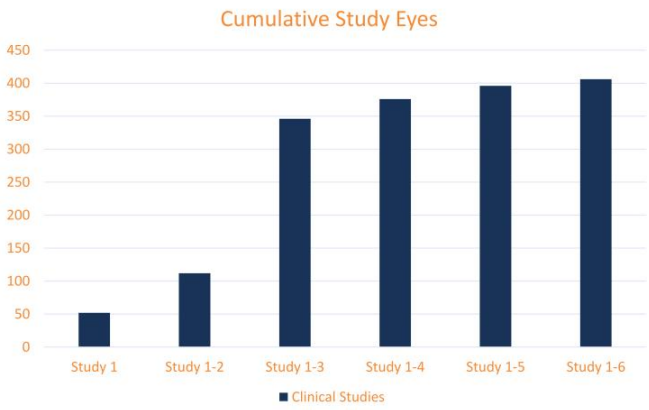
* p<0.003 versus baseline

Substantial Clinical History

6 clinical studies to date

- PRK Recovery 1
  - N=39 subjects; 78 eyes
- PRK Recovery 2
  - N=45 subjects; 90 eyes
- PRK Recovery 3
  - N=234 subjects; 468 eyes
- Punctate Epitheliopathies 1
  - N=30 subjects; 60 eyes
- Punctate Epitheliopathies 2
  - N=20 subjects; 40 eyes
- Persistent Epithelial Defects
  - N=10 subjects; 11 eyes

Patients Receiving KIO-201: 218
Eyes Receiving KIO-201: 406



CORPORATE OVERVIEW

Financials, Management & Milestones

Financials & Capitalization

As of March 31, 2023	
Cash & Equivalents	$3.4M
ELOC Available*	~$9.6M
R&D Credit Tax Receivables	$1.7M

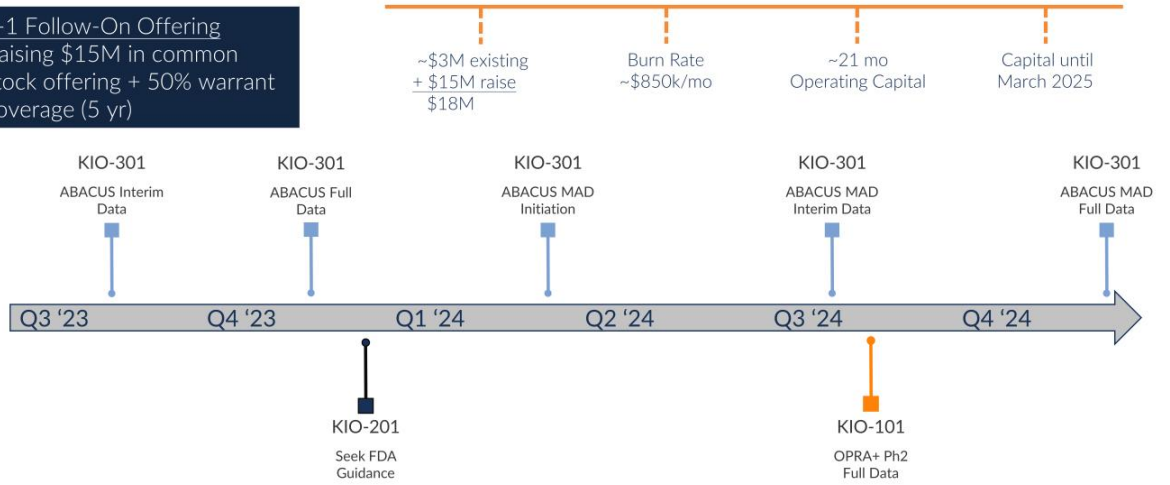
Clean cap table – no ratchets/resets/ACEs;
No debt

Capitalization as of May 11, 2023	Common Stock Equivalents
Common Stock	2,024,270
Series D Convertible Preferred (convertible @ $141.28/ share)	52
Warrants (WAEP $16.33)	1,613,483
Options (WAEP $17.01)	211,578
RSAs	70,550
ESPP	191
Available Option Pool	11,175
Total Fully Diluted	3,931,299

*As of March 31, 2023, $9.9M ELOC available. Additional draws of $0.3M completed in April 2023 reported as subsequent event in Q1 2023 10Q. 4,575 common shares pending settlement.

Capital Raise and Milestones

S-1 Follow-On Offering
Raising $15M in common stock offering + 50% warrant coverage (5 yr)



3+ months operating capital after full data on ABACUS MAD

Leadership Team

Brian M Strem, PhD
President & CEO

Eric J Daniels, MD, MBA
Chief Development Officer

Melissa Tosca, CPA
EVP – Finance

Stefan Sperl, PhD
EVP – CMC & Operations

Board of Directors

Paul Chaney
Chairman

Ken Gayron

David Hollander, MD, MBA

Erin Parsons

Aron Shapiro

Praveen Tyle

Brian M Strem, PhD
President & CEO

Scientific Advisory Board

Allen Ho, MD, PhD

Wills Eye Hospital

Christine Kay, MD, PhD

Vitreo Retinal Associates

Mark Pennesi, MD, PhD

Oregon Health & Science University

Russel Van Gelder, MD, PhD

UW Medicine, UW School of Medicine

Charlie Wykoff, MD, PhD

Retina Consultants of Texas℠

Daniel Durrie, MD

KU Medical Center, The University of Kansas

Paul Karpecki, OD, FAAO

Kentucky Eye Institute

Francis Mah, MD

Scripps

Victor Perez, MD

Duke University School of Medicine

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