

(NASDAQ: OCUL)

OCULAR THERAPEUTIX

Corporate Presentation

January 2024

Ocular
Therapeutix™

FORWARD LOOKING STATEMENTS AND DISCLAIMERS

Any statements in this presentation about future expectations, plans, and prospects for the Company, including the commercialization of DEXTENZA; the development, regulatory status and prospects of the Company's product candidates, including the timing and design of the Company's pivotal trials of AXPAXLI (also called OTX-TKI) for the treatment of wet AMD including the SOL trial, of the Company's ongoing HELIOS trial evaluating AXPAXLI for the treatment of non-proliferative diabetic retinopathy, and of the Company's ongoing Phase 2 clinical trial evaluating PAXTRAVA (also called OTX-TIC) for the treatment of primary open-angle glaucoma or ocular hypertension; the Company's plans to advance the development of its product candidates or preclinical programs; the potential utility of any of the Company's product candidates; projected net product revenue, in-market sales and other financial and operational metrics of DEXTENZA; the Company's cash runway and sufficiency of the Company's cash resources; and 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, constitute forward-looking statements within the meaning of The Private Securities Litigation Reform Act of 1995. Actual results may differ materially from those indicated by such forward-looking statements as a result of various important factors. Such forward-looking statements involve substantial risks and uncertainties that could cause the Company'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, the timing and costs involved in commercializing DEXTENZA or any product or product candidate that receives regulatory approval; the ability to retain regulatory approval of DEXTENZA or any product or product candidate that receives regulatory approval; the ability to maintain and the sufficiency of product, procedure and any other reimbursement codes for DEXTENZA; the initiation, design, timing, conduct and outcomes of clinical trials; the risk that the FDA will not agree with the Company's interpretation of the written agreement under the SPA; the risk that even though the FDA has agreed with the overall design of the SOL trial, the FDA may not agree that the data generated by the SOL trial supports potential marketing approval; uncertainty as to whether the data from earlier clinical trials will be predictive of the data of later clinical trials, particularly later clinical trials that have a different design than the earlier trials; availability of data from clinical trials and expectations for regulatory submissions and approvals; the Company's scientific approach and general development progress; the availability or commercial potential of the Company's current and future products and product candidates; the Company's ability to meet supply demands for its current and future products; uncertainties inherent in estimating the Company's cash runway, future expenses and other financial results, including its ability to fund future operations, including clinical trials; Company's existing indebtedness and the ability of the Company's creditors to accelerate the maturity of such indebtedness upon the occurrence of certain events of default; the Company's ability to enter into strategic alliances or generate additional funding on a timely basis, on favorable terms, or at all; and other factors discussed in the "Risk Factors" section contained in the Company's quarterly and annual reports on file with the Securities and Exchange Commission. In addition, the forward-looking statements included in this presentation represent the Company's views as of the date of this presentation. The Company anticipates that subsequent events and developments will cause the Company's views to change. However, 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, whether as a result of new information, future events or otherwise, except as required by law. These forward-looking statements should not be relied upon as representing the Company's views as of any date subsequent to the date of this presentation.

This presentation discusses investigational products in development. Their efficacy and safety profiles have not been established, and they have not been approved for marketing by the FDA.

OCULAR THERAPEUTIX AIMS TO TRANSFORM OPHTHALMIC CARE, BRINGING ADVANCED THERAPIES TO PHYSICIANS AND PATIENTS

OBSOLETE EYE DROPS



Video Courtesy Dr. Alan Robin

Provide physician-administered, preservative-free, and compliance-improved treatments for ophthalmic diseases that improve outcomes and practice economics

OBSOLETE IMMEDIATE RELEASE INJECTIONS



Video Courtesy Dr. Leonid Skorin

Create treatments that continuously control retinal diseases and minimize the need for multiple injections into the eye resulting in better compliance and potentially better preservation of vision

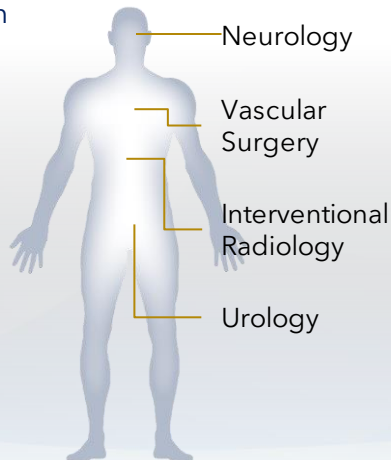
OPHTHALMOLOGY IS RIPE FOR DISRUPTION

WE HAVE APPLIED A PROVEN BIOTECHNOLOGY TO OPHTHALMOLOGY

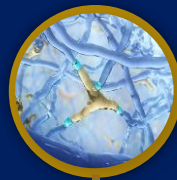
LEVERAGING AN ESTABLISHED HYDROGEL PLATFORM...

5M patients treated with therapies utilizing hydrogel platform¹

5 FDA-approved devices utilize hydrogel outside of the eye²⁻⁶



...TO FORMULATE, DEVELOP, AND COMMERCIALIZE INNOVATIVE OPHTHALMIC THERAPIES



1992

Origins of ELUTYX™ Technology⁷



2018

DEXTENZA® approved – first and only drug-eluting intracanalicular insert⁸

References: **1.** Instylla: An Easy, Predictable, and Simpler Way to Embolize Tumors. Accessed 3/2/2023. <https://www.instylla.com/wp-content/uploads/2021/08/Instylla-MTS-7-2021-UL.pdf>. **2.** DuraSeal [Instructions for Use]. Princeton, NJ: Integra LifeSciences Corporation. **3.** Mariados N, et al. *Int J Radiat Oncol Biol Phys*. 2015;92(5):971-977. **4.** Embrace™ Hydrogel Embolic. System. Instylla, Inc. Accessed December 22, 2022. <https://instylla.com/technology/>. **5.** MynxGrip Vascular Closure Device. Cardinal Health. Accessed December 22, 2022. <https://www.cardinalhealth.com/content/dam/corp/web/documents/brochure/CardinalHealth-MynxGripVascularClosureDeviceOverviewBrochure.pdf>. **6.** Nellix Endovascular Aneurysm Sealing System. Endologix. Accessed December 22, 2022. https://endologix.com/wp-content/uploads/2016/09/MM1250Rev01-Nellix-Polymer-Sheet-Disposable-_04-20.pdf. **7.** Sawhney AS; Incept, LLC, assignee. Methods for forming regional tissue adherent barriers and drug delivery systems. US patent 6,514,534 B1. February 4, 2003. **8.** Approval Package for DEXTENZA. US Food and Drug Administration. November 20, 2018. Accessed December 22, 2022. https://www.accessdata.fda.gov/drugsatfda_docs/nda/2018/208742Orig1s000Approv.pdf

WE AIM TO EXCEL IN DEVELOPMENT, MANUFACTURING AND COMMERCIALIZATION

INNOVATION FOR TOMORROW









- Advanced ophthalmology pipeline to address unmet needs in large, growing eye care markets
- 4 product candidates in clinical development for front- and back-of-eye conditions
- Targeting indications within markets having an aggregate of \$25B in estimated global sales in FY21¹



COMMERCIAL EXCELLENCE TODAY

- Expertise in “buy and bill”
- Optimized reimbursement/ coding for a product and procedure
- Execution of true key account management in ASC environments
- Understanding of compliance framework

WE ARE ADVANCING A BROAD OPHTHALMOLOGY PORTFOLIO USING ELUTYX FOR CONTINUOUS DRUG DELIVERY

PROGRAM	THERAPEUTIC FOCUS	PRECLINICAL	EARLY/MID CLINICAL STAGE (PHASE 1 – PHASE 2)	PIVOTAL CLINICAL TRIAL STAGE (PHASE 3)	FDA APPROVAL	CURRENT STATUS/ANTICIPATED MILESTONES
Dextenza* (dexamethasone ophthalmic insert) 0.4mg for intracanalicular use	Post surgical ocular inflammation and pain Ocular itching associated with allergic conjunctivitis					
AXPAXLI™ (axitinib intravitreal implant)	Wet AMD*					Q1 2024 Screen first subject in pivotal trial
AXPAXLI (axitinib intravitreal implant)	Diabetic Retinopathy					Q2 2024 9-month data from the HELIOS Phase 1 trial
PAXTRAVA™ (travoprost intracameral implant)	Glaucoma and ocular hypertension					Q2 2024 Top-line data from Phase 2 trial at ASCRS in April 2024
OTX-DED (dexamethasone intracanalicular insert)	Episodic dry eye disease					Phase 2 trial completed H1 2024 Complete enrollment for trial to determine placebo comparator for the potential pivotal program
OTX-CSI (cyclosporine intracanalicular insert)	Dry eye disease					Phase 2 trial completed H1 2024 Complete enrollment for trial to determine placebo comparator for the potential pivotal program
Complement Modulator (product candidate)	Intermediate and late dry AMD*					
Gene Delivery (intravitreal and suprachoroidal delivery)	Inherited and acquired retinal degenerations and protein biofactory indications					

*Age-related Macular Degeneration (AMD)

2023: A YEAR OF MULTIPLE CATALYSTS ACROSS OUR PORTFOLIO

SURGICAL

Dextenza[®]
(dexamethasone ophthalmic insert) 0.4mg
for intracanalicular use

- ✓ DEXTENZA net product revenue guidance for 2023 at upper end of \$55M to \$60M range
- ✓ Completed enrollment of pediatric trial

RETINA

AXPAXLI
Wet AMD

- ✓ Presented 12-month data from U.S. Randomized Trial
- ✓ Initiated SOL-1 Pivotal Trial
- ✓ Received FDA agreement on SOL-1 pivotal trial under a SPA

AXPAXLI
NPDR

- ✓ Completed enrollment of HELIOS Phase 1 trial

GLAUCOMA AND OCULAR HYPERTENSION

PAXTRAVA

- ✓ Completed enrollment of Phase 2 trial
- ✓ Initiated a pilot repeat-dose sub-study in the Phase 2 trial

DRY EYE

OTX-DED and
OTX-CSI

- ✓ Initiated a small study to identify a proper placebo control for future trials

ANTICIPATED PIPELINE MILESTONES IN 2024 WITH POTENTIAL FOR VALUE CREATION

Q1

AXPAXLI

Screen first subject in SOL-1 pivotal trial in wet AMD in Q1

OTX-CSI and OTX-DED

Complete enrollment for trial to determine placebo comparator for potential pivotal program as early as Q1

Q2

PAXTRAVA

Report topline data from Phase 2 trial in at ASCRS in April 2024

AXPAXLI

Present topline data from HELIOS Phase 1 Trial in NPDR in Q2

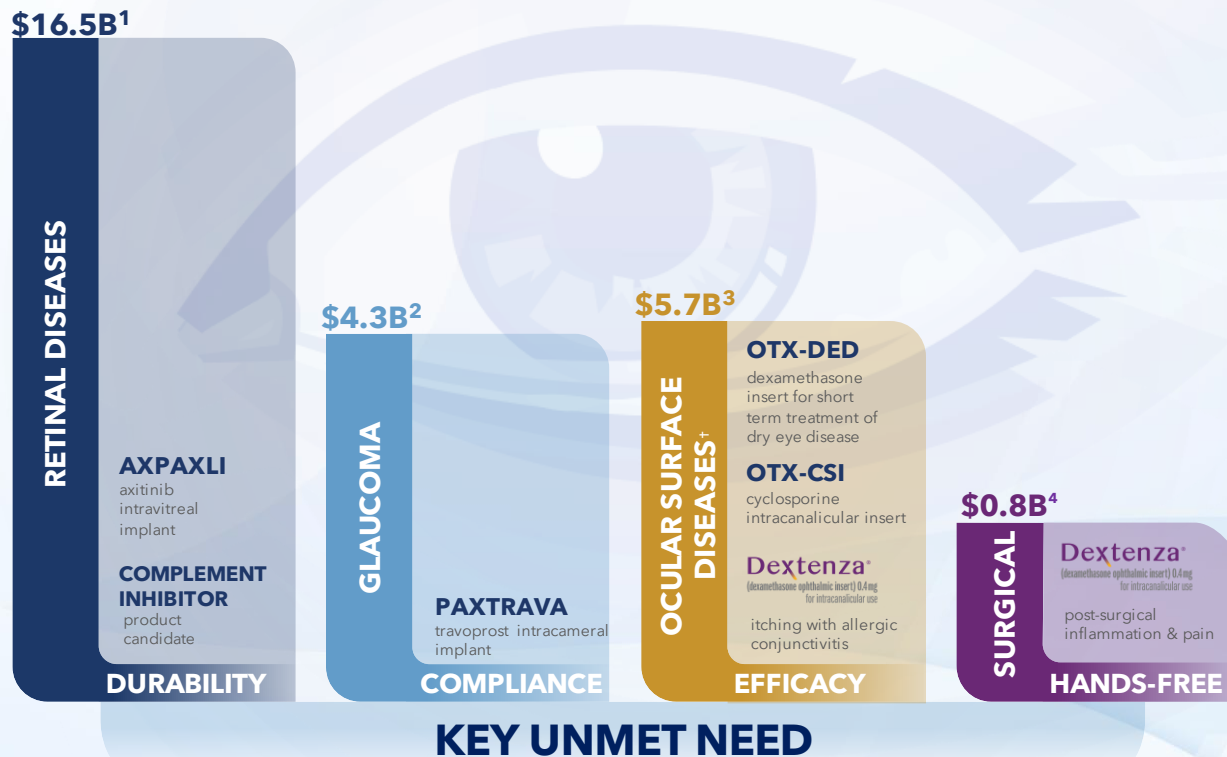
Q3

AXPAXLI

Prepare to initiate second pivotal trial in wet AMD as early as Q3

Q4

OUR PRODUCT CANDIDATES ARE BEING DEVELOPED TO ADDRESS UNMET NEEDS ACROSS SEVERAL INDICATIONS WITHIN MARKETS TOTALING \$25B ESTIMATED ANNUAL GLOBAL SALES IN FY21

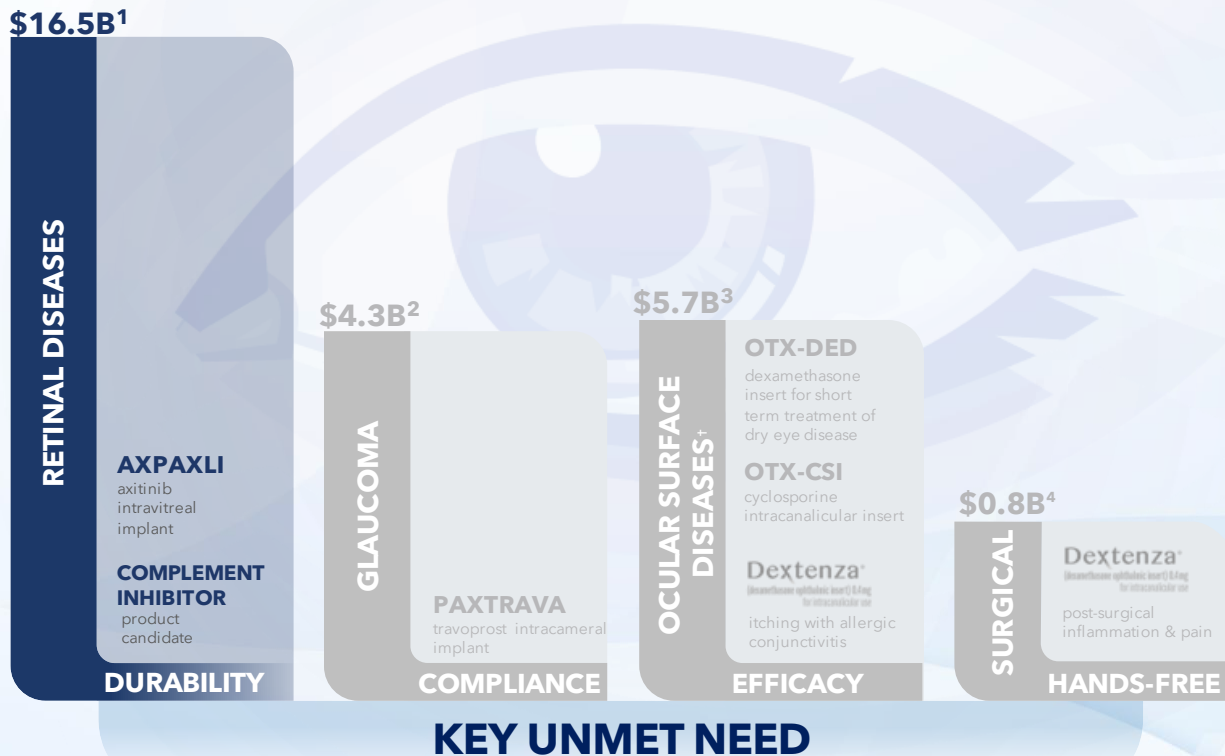


KEY UNMET NEED

These data reflect the total global market for the respective indications. Our market opportunity for such indications reflects a portion of this market.
 † Data shown here is only representative of Dry Eye and not other Ocular Surface Diseases
References: **1.** 2023 Retina Pharma Market Scope Report **2.** 2023 Glaucoma Pharma Market Scope Report **3.** 2022 Dry Eye Market Scope Report **4.** Estimated using costs of topical steroid eyedrops (not DEXTENZA) based on sales [IQVIA Market data breakdown 2021 (Feb 2022)] + ophthalmic anti-allergy sales



OUR RETINAL DISEASE PRODUCT CANDIDATES ARE DESIGNED TO ADDRESS THE INADEQUATE DURABILITY OF EXISTING TREATMENTS

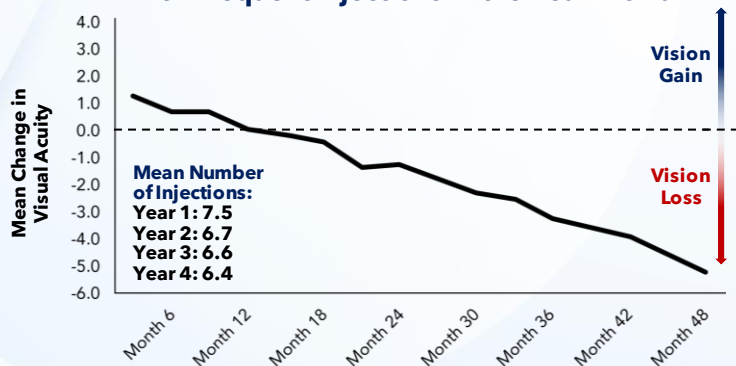


KEY UNMET NEED

HEAVY TREATMENT BURDEN IN RETINAL VASCULAR DISEASES LEADS TO POOR OUTCOMES & UNDERTREATMENT¹

In **WET AMD**, high treatment burden leads to noncompliance and vision loss over time

Patients Continue to Lose Vision Over Time with Frequent Injections in the Real-world²



In **DIABETIC RETINOPATHY (DR)**, there is a need for early intervention with a longer lasting therapy

Utilization of anti-VEGFs to treat non-proliferative DR (NPDR) is low, due to high treatment burden



Less than 1% of 6M NPDR patients are treated with IVTs quarterly^{3,4}

AXPAXLI is being developed to reduce the treatment burden associated with anti-VEGFs and improve outcomes

Treat to maintain in **WET AMD**

Designed to provide sustained and durable VEGF-inhibition for 9-12 months

Treat to prevent and maintain in **DR**

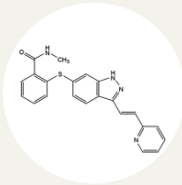
AXPAXLI IS DESIGNED TO DELIVER CONTINUOUS CONTROL OVER RETINAL VASCULAR DISEASES

AXPAXLI combines ELUTYX technology with axitinib, a potent TKI, in a single hydrogel implant to deliver sustained drug release and continuous disease control for 9-12 months



ELUTYX Technology: targeted sustained drug delivery platform

- Facilitates sustained axitinib release for 9-12 months¹
- Allows delivery at a steady state over a long period of time¹
- Formulated from biocompatible and inert components¹

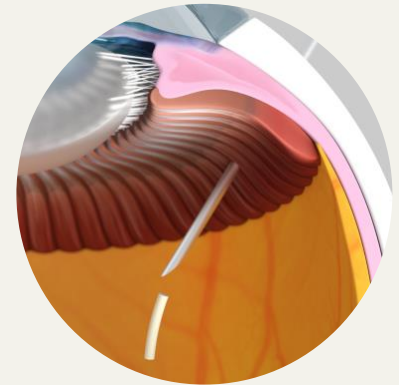


Axitinib: potent tyrosine kinase inhibitor

- Acts intracellularly and directly inhibits downstream signaling for angiogenesis²⁻⁴
- Highly potent, pan-VEGF receptor inhibitor²⁻⁴
- No TIE2 inhibition at clinically relevant tissue concentrations⁵



AXPAXLI: axitinib delivered by Elutyx technology



AXPAXLI is also referred to by its laboratory code of OTX-TKI.

Abbreviations: TIE2=Tyrosine Kinase with Immunoglobulin-like and EGF-like domains 2; VEGF=vascular endothelial growth factor

References: **1.** Blizzard CD, Driscoll A, El-Hayek R, et al. Ocular implant containing a tyrosine kinase inhibitor. Published online September 13, 2022. Accessed September 26, 2022. **Patent.** **2.** Zhao Y, et al. *Oncologist*. 2015;20(6):660-673.

3. Gross-Goupil M, et al. *Clin Med Insights Oncol*. 2013;7:269-277. **4.** Liang C, et al. *Mol Ther Oncolytics*. 2022;24:577-584. **5.** Unpublished data; Data on File. In vitro cell-based assays used to characterize IC50 values of axitinib for receptors VEGFR-2 (using HUVECs), PDGFR-Beta (in murine fibroblast cells), and a non-target receptor TIE2 (utilizing CHO cells).

AXITINIB IS A MULTITARGETED INHIBITOR OF ALL VEGF RECEPTORS INTRACELLULARLY, THEREBY INHIBITING DOWNSTREAM ANGIOGENESIS SIGNALING

Small molecule and **highly compatible** with **ELUTYX technology**

Small size & low water solubility¹ enables optimal control of extended drug release

TKI with **highest potency** and **receptor affinity** studied in retinal vascular diseases^{2,3}

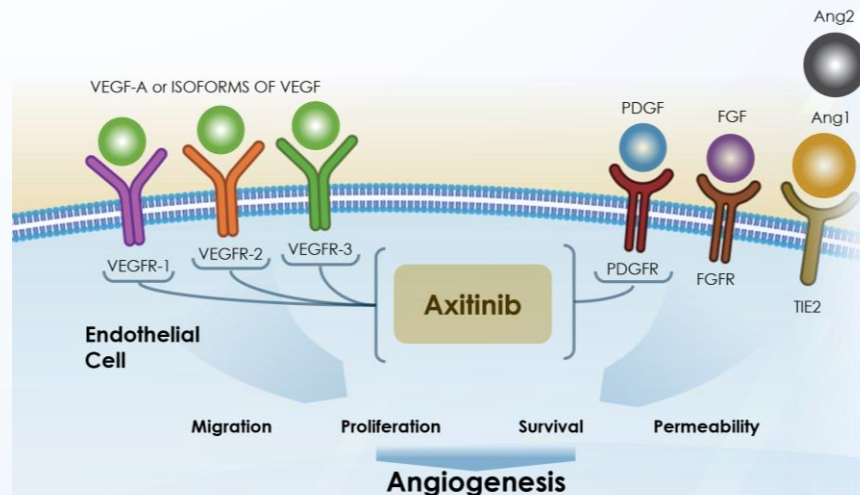
Allows for the incorporation of smaller drug quantities into a single implant

Highly selective inhibition of all VEGF and PDGF receptors⁴

Potentially maximizes efficacy and minimizes off-target effects⁵

FDA-approved oncology treatment⁶

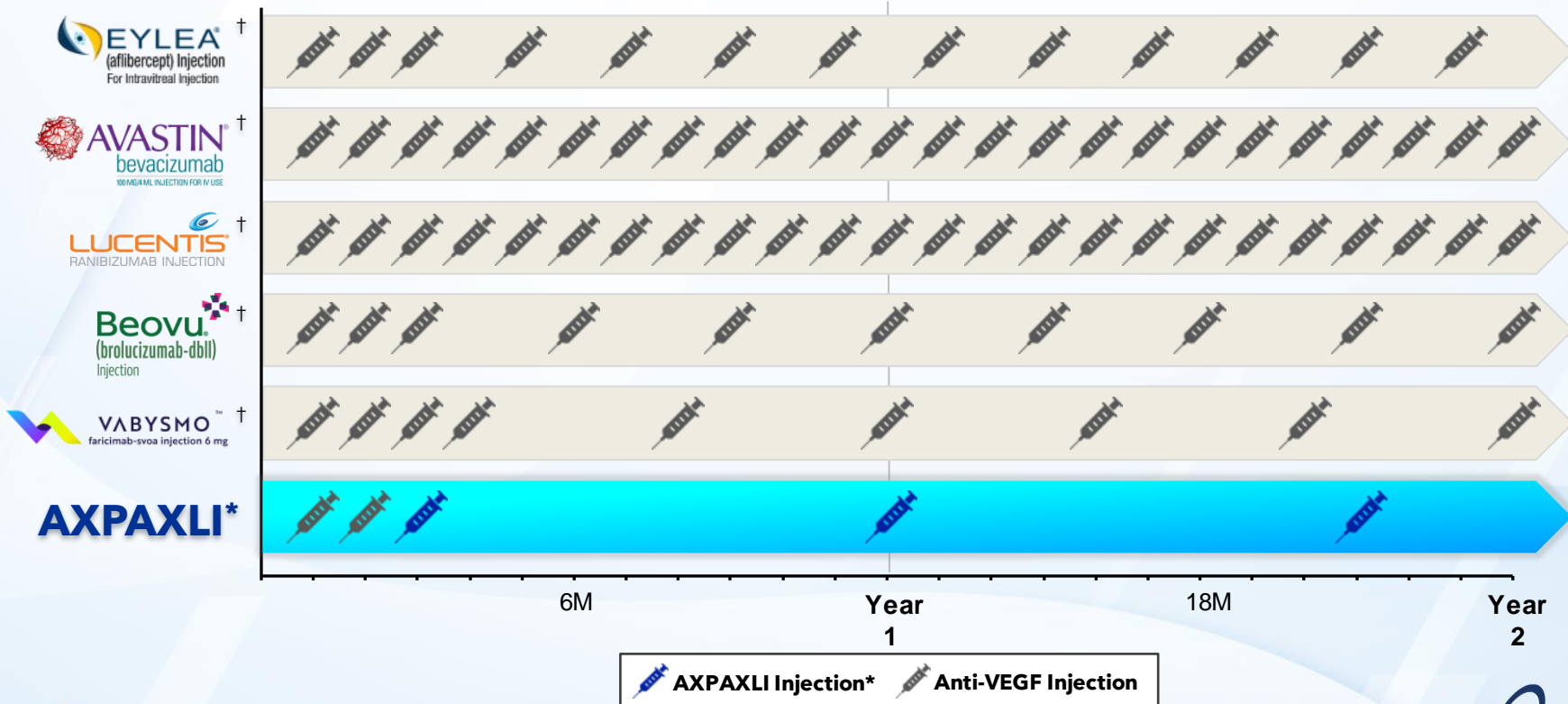
Established mechanism of action





AXPAXLI FOR WET AMD

AXPAXLI IS WELL-SUITED TO REDUCE TREATMENT BURDEN AS A NOVEL DURABLE WET AMD THERAPY



OUR PHASE 1 TRIALS DEMONSTRATED BIOLOGICAL ACTIVITY FOR AXPAXLI IN TWO PATIENT POPULATIONS



Australia Trial

PROOF OF CONCEPT:
Does AXPAXLI have
biological activity?

Open-Label, Dose Escalation Trial¹

- 29 patients dosed with AXPAXLI
- To evaluate the safety and biological activity of AXPAXLI in **treatment naïve or previously treated active** wet AMD patients
- Study initiated in **2019** (follow-up ongoing)
- Interim results demonstrated the product's potential to continuously control wet AMD, **showing biological activity in subjects with pre-existing fluid**



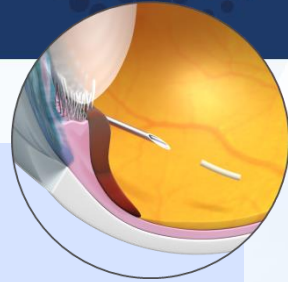
U.S. Trial

DURABILITY: How long
does the biological
activity of AXPAXLI last?

Randomized, Masked, Controlled Trial²

- 16 patients dosed with AXPAXLI
- To evaluate the safety and biological activity of AXPAXLI in **previously treated controlled** wet AMD patients compared to aflibercept Q8W
- Study initiated **2021** (7-, 10-, and 12-month data presented; follow-up ongoing)
- 12-month results showed potential as a continuous control **maintenance therapy for 6-12 months in subjects with controlled retinal fluid**

IN BOTH PHASE 1 TRIALS, AXPAXLI DEMONSTRATED POTENTIAL BEST-IN-CLASS DURABILITY



45 PATIENTS TREATED WITH AXPAXLI TO DATE

- First patient dosed in early 2019
- Over 850 patient visits from AXPAXLI clinical trials with no drug-related ocular SAEs reported



DEMONSTRATED BIOLOGICAL ACTIVITY AND MAINTENANCE THERAPY WITH SOC

- Demonstrated reduction in retinal fluid in treatment naïve wet AMD patients with active retinal fluid
- Showed sustained and stable maintenance of fluid and vision for up to 12 months in previously treated wet AMD patients with controlled fluid



POTENTIAL BEST-IN-CLASS DURABILITY AND TREATMENT BURDEN REDUCTION

- In the U.S. trial, 73% of AXPAXLI treated subjects were rescue-free up to 10 months and 60% were rescue-free up to 12 months with 4 additional subjects rescued at 12-months
- Demonstrated a clinically meaningful 89% reduction in treatment burden over a 12-month period in the U.S. trial



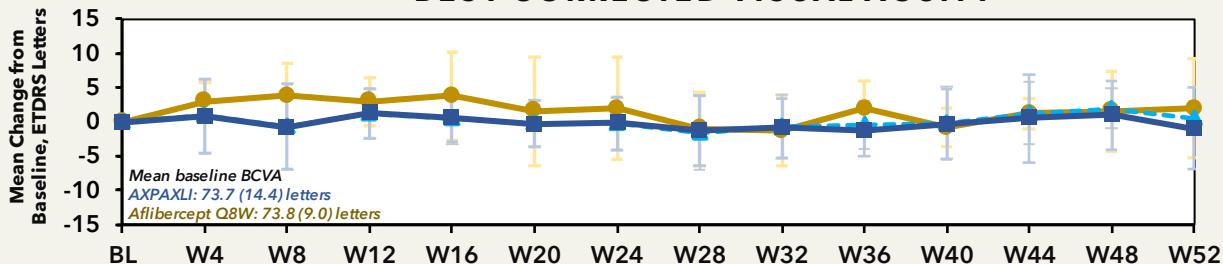
GENERALLY WELL-TOLERATED

- No reports of drug-related ocular or systemic SAEs
- No retinal detachment, retinal vasculitis or implant migration into the anterior chamber events were reported with AXPAXLI

VISION AND CSFT WITH AXPAXLI WERE COMPARABLE TO STANDARD OF CARE AFLIBERCEPT Q8W

AXPAXLI U.S. randomized trial evaluating wet AMD subjects with controlled retinal fluid

BEST CORRECTED VISUAL ACUITY



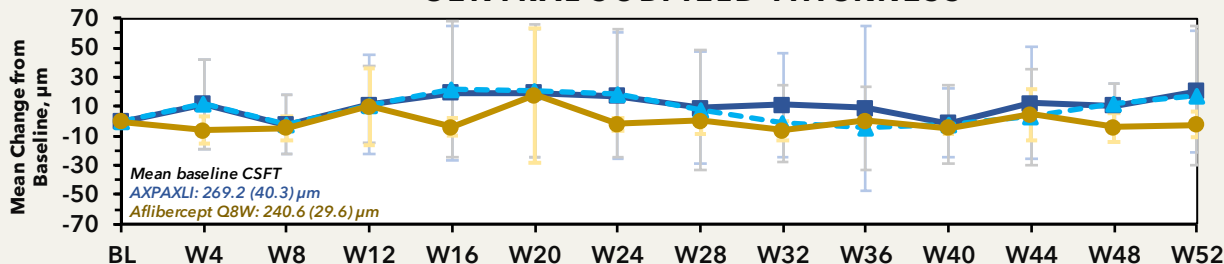
Mean (SD) change in BCVA from baseline to Week 52:

AXPAXLI: -1.0 (6.0) letters

AXPAXLI: +0.6 (2.6) letters
(censoring rescued subjects)

Aflibercept Q8W: +2.0 (7.2) letters

CENTRAL SUBFIELD THICKNESS



Mean (SD) change in CSFT from baseline to Week 52:

AXPAXLI: +20.2 (41.6) µm

AXPAXLI: +17.2 (47.6) µm
(censoring rescued subjects)

Aflibercept Q8W: -2.2 (8.5) µm

—■— AXPAXLI arm*(N=15) - -▲- - AXPAXLI arm (censoring rescued subjects)† —●— Aflibercept Q8W (N=5)

Data cut off April 14, 2023; Error bars represent standard deviation

* AXPAXLI arm received AXPAXLI at baseline and a single aflibercept injection at Week 4; n=14 in AXPAXLI arm at Weeks 8, 28, 40 and 48 due to missed visits

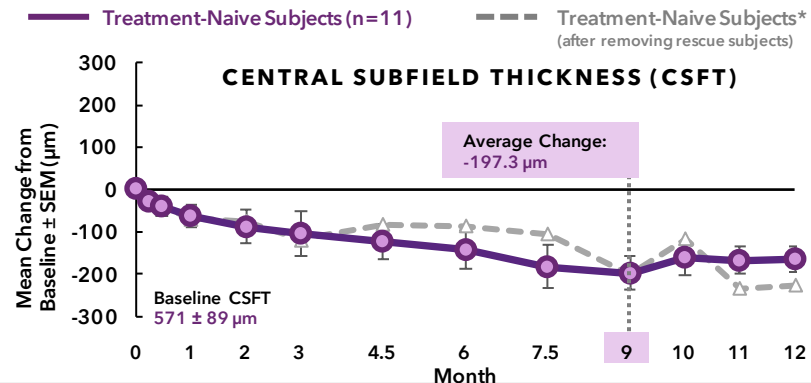
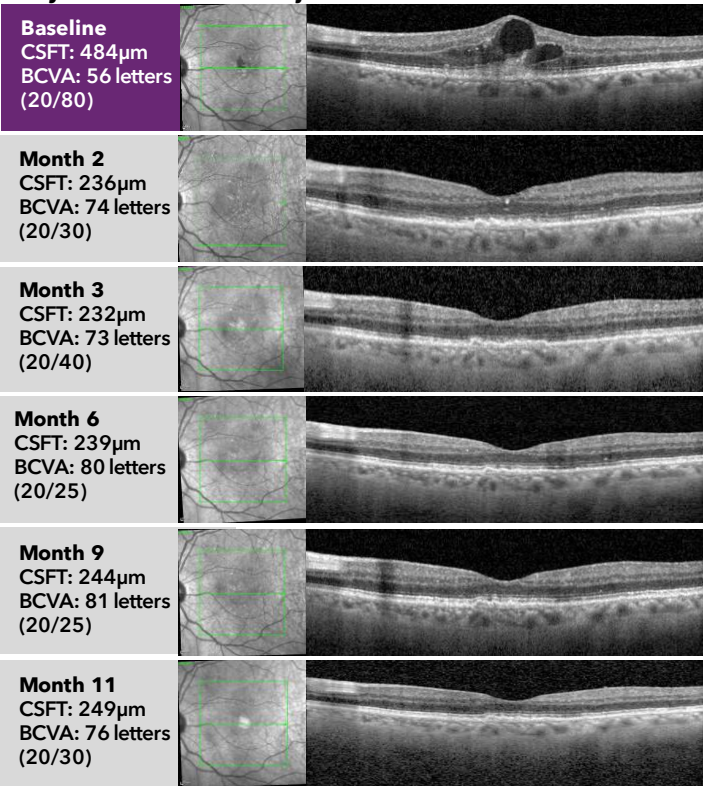
† Sample size for AXPAXLI arm (censoring rescued subjects): n=15 at Baseline and Weeks 4 and 12; n=14 at Week 8 (missed visit) and Weeks 16 and 20; n=12 at Week 24 and n=11 at Weeks 28, 32, 36 and 40; n=10 at Week 44; n=9 at Weeks 48 and 52

Abbreviations: BCVA=best corrected visual acuity; BL=baseline; CSFT=central subfield thickness; ETDRS=Early Treatment Diabetic Retinopathy Study; W, week

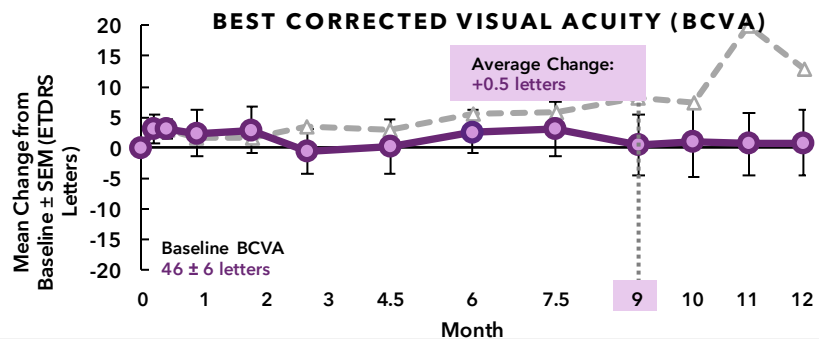
Reference: Khanani AM. 12-Month Update on Randomized, Controlled, Trial of AXPAXLI (Axitinib Intravitreal Implant) for the Treatment of Wet AMD. Presented at the Clinical Trials at the Summit Meeting, June 10, 2023, Park City, UT.

CASE STUDY: IN TREATMENT NAÏVE SUBJECTS, AXPAXLI MONOTHERAPY HAD A CLINICALLY-MEANINGFUL REDUCTION IN RETINAL FLUID

Cohort 3a Treatment Naïve Subject Received AXPAXLI 600 µg Only Without Anti-VEGF Injections



Naïve Subjects, n	11	11	11	11	11	10	10	11	7	9	6
*Naïve Subjects after removing rescue, n	11	10	9	8	8	6	5	3	2	1	1

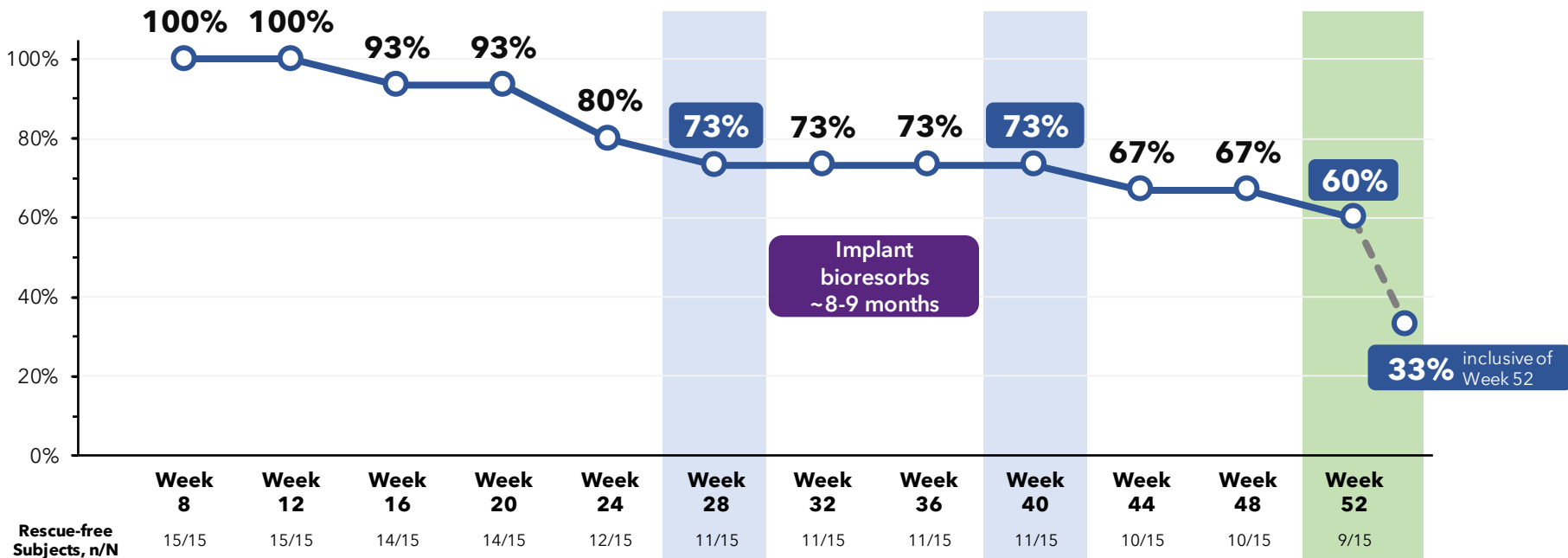


Naïve Subjects, n	11	11	11	11	11	10	10	11	8	9	7
*Naïve Subjects after removing rescue, n	11	10	9	8	8	6	5	3	2	1	1

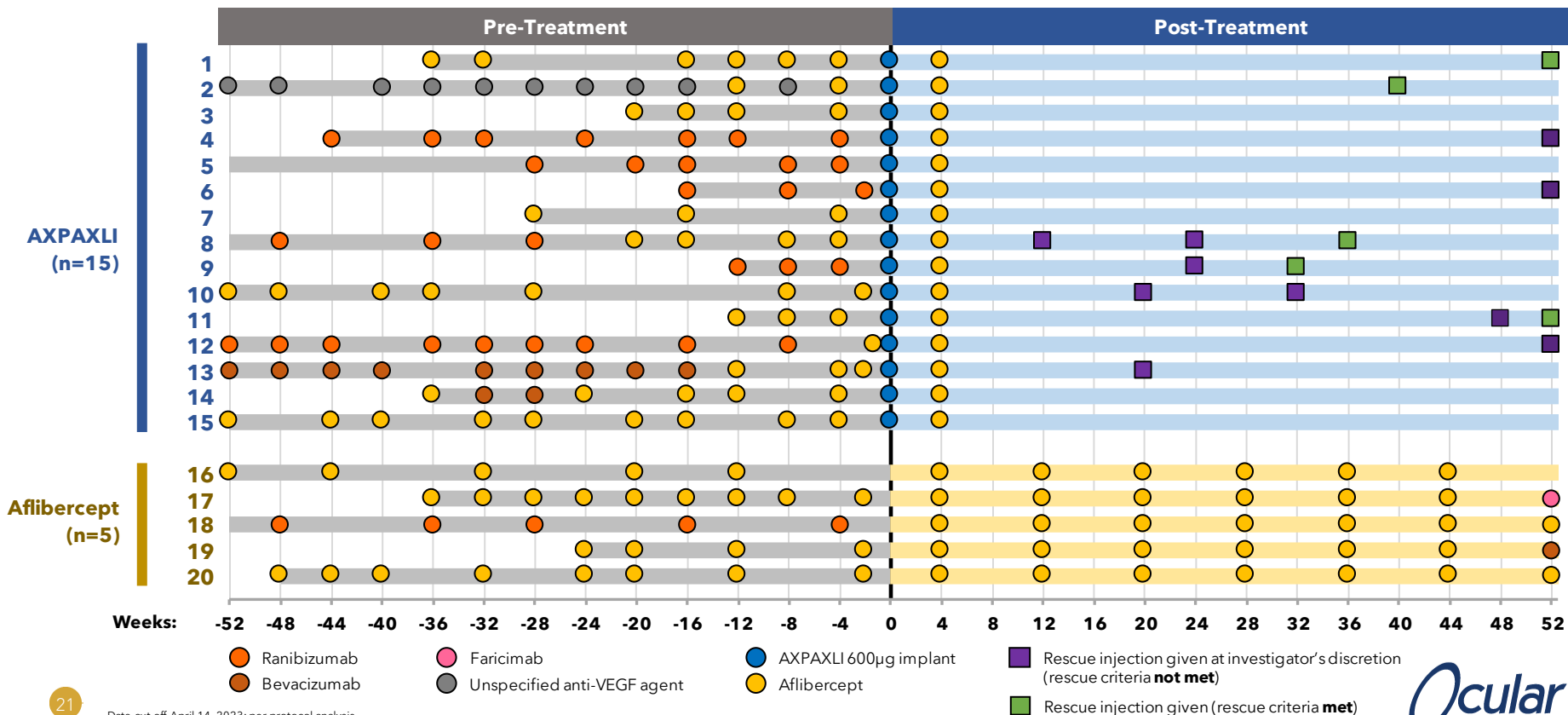
AXPAXLI DEMONSTRATED EXTENDED DURATION OF ACTION

with 60% of AXPAXLI subjects rescue-free up to 12 months and 4 additional subjects rescued at 12 months

Percentage of AXPAXLI Subjects Rescue-Free Up to Each Visit (n=15)

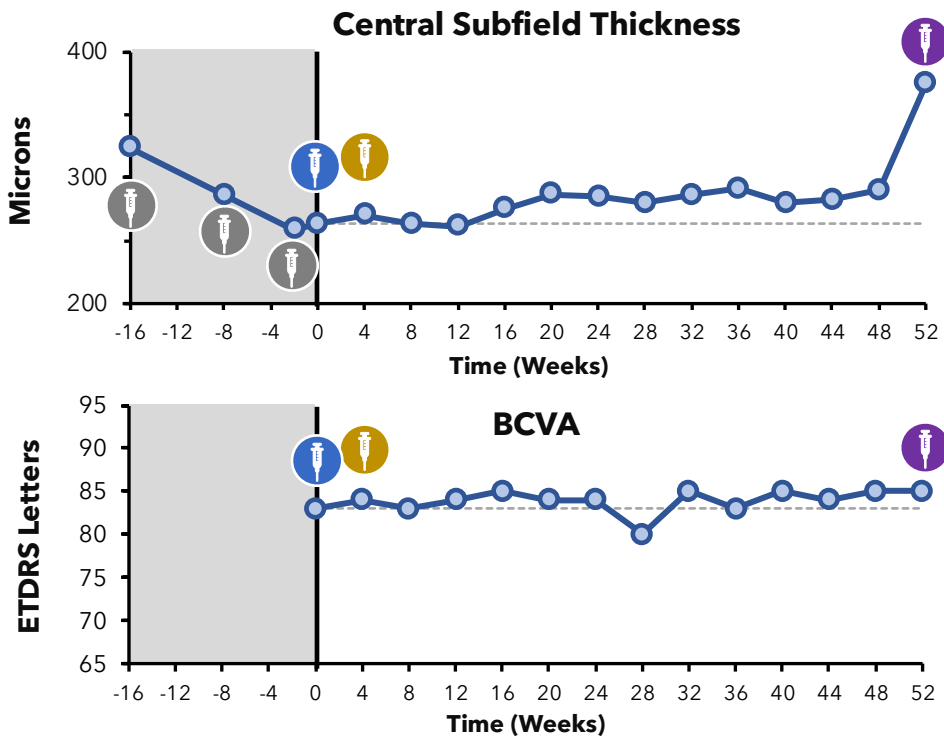


89% REDUCTION IN TREATMENT BURDEN OVER A 12-MONTH PERIOD FOLLOWING AXPAXLI TREATMENT

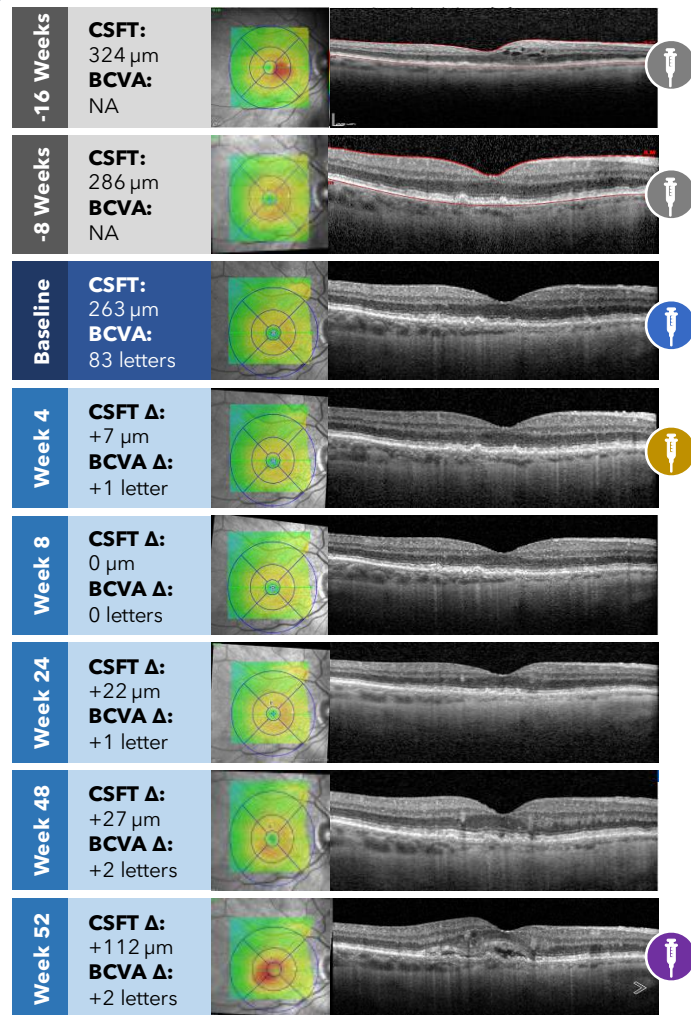


AXPAXLI: PHASE 1 U.S. TRIAL 12-MONTH RESULTS

CASE STUDY: IN PATIENTS WITH CONTROLLED FLUID, AXPAXLI SHOWED STABLE AND SUSTAINED BCVA AND CSFT MAINTENANCE UP TO 12 MONTHS



-  anti-VEGF injection
-  AXPAXLI administration
-  study-mandated aflibercept
-  rescue injection given at investigator's discretion



SAFETY DATA SHOWED AXPAXLI WAS GENERALLY WELL-TOLERATED IN THE PHASE 1 PROGRAM

In the Phase 1 Australia & U.S. Phase 1 studies:^{1,2}

- No drug-related ocular or systemic serious adverse events were reported with AXPAXLI
- No retinal detachment, retinal vasculitis, or implant migration into the anterior chamber adverse events were reported in subjects who received AXPAXLI

AUSTRALIA STUDY¹

Ocular Adverse Events in the Study Eye Reported by Severity	Cohort 1 200 µg n=6	Cohort 2* 400 µg n=7	Cohort 3a* 600 µg n=6	Cohort 3b* 400 µg + anti-VEGF n=4	Total n=23
Ocular AEs	4	7	6	3	20
Mild	4	4	3	2	13
Moderate	0	3	2	1	6
Severe	0	0	1 ^a	0	1 ^a
Serious ocular AEs	0	0	0	0	0

^a Severe ocular AE in Cohort 3a was worsening of cataract

Note: A subject is counted once for the most severe event if the subject reported one or more events

Data cut off August 5, 2022

U.S. STUDY UP TO 12 MONTHS²

Ocular Adverse Events in the Study Eye Reported by Severity	AXPAXLI n=16	Aflibercept n=5
Ocular AEs	16	3
Mild	14	2
Moderate	2*	1**
Severe	0	0
Serious ocular AEs	1*	0

*Moderate and serious ocular AE in AXPAXLI arm was acute endophthalmitis 6 days after aflibercept injection which was deemed by the investigator to be related to the injection procedure and not study drug

**Moderate AE in aflibercept arm was elevated intraocular pressure

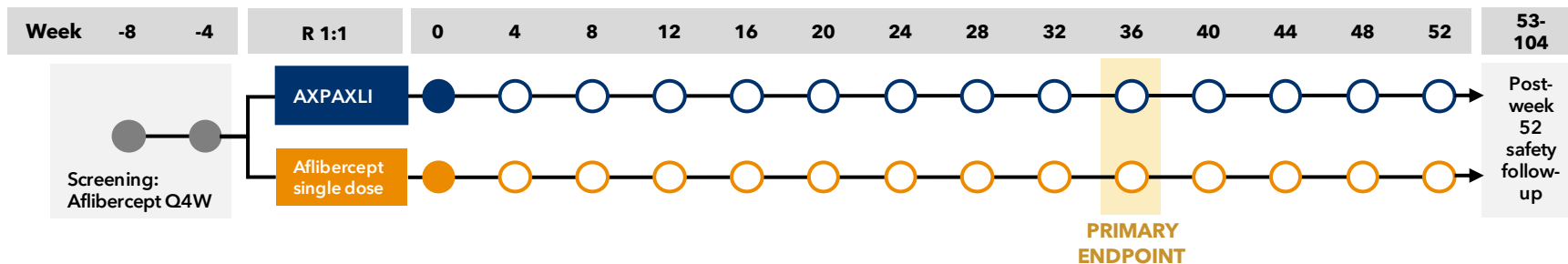
Data cut off April 14, 2023

SOL: AXPAXLI PIVOTAL CLINICAL TRIAL IN WET AMD



Multi-center, double-masked, randomized, parallel-group trial

DESIGN	KEY INCLUSION CRITERIA	PRIMARY ENDPOINT
<ul style="list-style-type: none"> Primarily conducted in the U.S. Two arm trial with ~150 subjects per group 	<ul style="list-style-type: none"> Subjects who are treatment naïve in the study eye with a diagnosis of choroidal neovascularization or sub foveal neovascularization at screening Visual acuity of 20/80 or better at screening[†] Vision acuity of 20/20 at Day 1 OR gain at least 10 ETDRS letters at Day 1[†] 	Proportion of subjects who maintained visual acuity, defined as <15 ETDRS letters of BCVA loss at Week 36



● AXPAXLI ● Aflibercept (2 mg) ○ Study visit

UPCOMING WET AMD MILESTONES



Received written agreement from FDA regarding initial proposed design of SOL trial

SEP
2023

NOV
2023

DEC
2023

Q1
2024

H2
2024



Submit Special Protocol Assessment (SPA)



Initial IRB Approval



Initiate contracting with study sites



Submit SPA amendment including

- Broadening inclusion criteria
- Using an optimized AXPAXLI implant with 450 µg of more soluble axitinib to maintain daily delivered dose*

- Anticipate response from FDA regarding SPA amendment within 45 days of submission
- Anticipate first subject screened

- Prepare to initiate second pivotal wAMD trial

AXPAXLI FOR DIABETIC RETINOPATHY



THE MARKET OPPORTUNITY FOR AXPAXLI IN PATIENTS WITH DIABETIC RETINOPATHY IS POTENTIALLY LARGE AND ATTRACTIVE



Diabetic retinopathy (DR) is the leading cause of blindness in the working-age population²



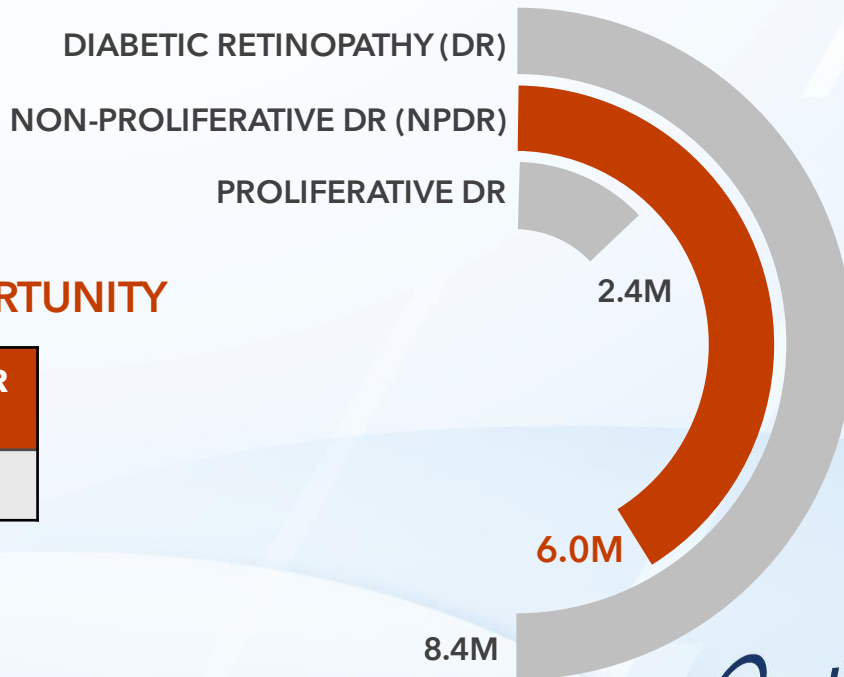
Increasing prevalence of diabetes expected to drive future opportunity³

TOTAL U.S. MARKET OPPORTUNITY

**Moderate to Severe NPDR
of Patients (U.S., 2022)**

3.3M

DR OPPORTUNITY (U.S. 2022)¹



THERE IS A STRONG SCIENTIFIC AND CLINICAL RATIONALE SUPPORTING EVALUATION OF AXPAXLI FOR THE TREATMENT OF DIABETIC RETINOPATHY

Diabetic retinopathy (DR) is a microvascular and inflammatory-driven disease

Preclinical and clinical evidence supports exudation suppression

Clinical validation of anti-VEGF benefit in DR

Inflammation and VEGF drive progression of non-proliferative DR to proliferative DR; AXPAXLI MOA may target underlying pathophysiology

- Similar to wet AMD, DR is underpinned by an abnormal inflammatory reaction¹
- Inflammation-induced microvasculature complications drive release of VEGF in DR¹

AXPAXLI can prevent neovascularization

- In clinical trials evaluating AXPAXLI for the treatment of wet AMD, AXPAXLI has demonstrated sustained and stable maintenance of retinal fluid over 6 months
- AXPAXLI prevented neovascularization for 12 months in rabbits following VEGF challenge²

Anti-VEGF treatment in NPDR has demonstrated clinical benefit

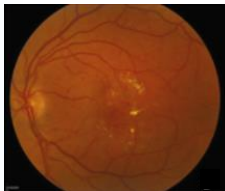
- Significant improvement in Diabetic Retinopathy Severity Scale (DRSS) and reduced vision-threatening complications of DR from PANORAMA and Protocol W trials in patients treated with intravitreal aflibercept³
- AXPAXLI clinical outcomes were comparable to intravitreal aflibercept in patients with wet AMD⁴

DR IS CHRONIC, PROGRESSIVE, AND BURDENSOME, WITH A NEED FOR EARLIER TREATMENT TO PREVENT PROGRESSION

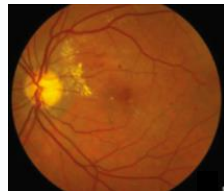
Patient with Diabetes



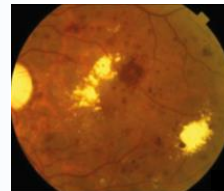
Mild NPDR



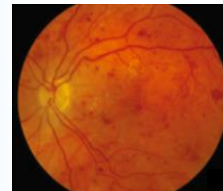
Moderate NPDR



Severe NPDR



PDR



Risk of Progression to PDR (1 year)

5%

12-27%

~52-75%

Patient Journey Overview

- One of most **common, severe diabetes complications; leading cause of blindness** in working-age population
- Diabetic patients often screened for DR, referred to **ophthalmologists**
- **No established standard of care** for NPDR (mainly observation), but **earlier intervention could treat NPDR and prevent progression** to severe/ vision-threatening disease
 - Anti-VEGFs approved in NPDR, but we believe they are not routinely used because, among other reasons, they require frequent injections

24 Month Treatment Regimens:

Current Approved Treatments and Planned AXPAXLI Position for Moderate to Severe NPDR



Every 9-12 month dosing

Every 9-12 month dosing

ENROLLMENT COMPLETED FOR HELIOS CLINICAL TRIAL OF AXPAXLI FOR THE TREATMENT OF DIABETIC RETINOPATHY

HELIOS

A U.S.-based, multicenter, double-masked, randomized, parallel group study evaluating the safety, tolerability and biological activity of AXPAXLI in patients with moderately severe to severe NPDR without DME

Patient Population

Key Inclusion Criteria

- Adults with diabetic retinopathy secondary to diabetes mellitus type 1 or 2
- Moderately severe to severe NPDR (DRSS level 47 or 53) in the study eye
- BCVA \geq 69 ETDRS letters (Snellen equivalent ~20/40 or better) in the study eye

Key Exclusion Criteria

- DME within 6 months
- CSFT \geq 320 μ m
- Anti-VEGF injections in the prior 12 months

2:1 Randomization

AXPAXLI

600 μ g single implant (n=14)



Sham Injection

(n=7)



Time (months)

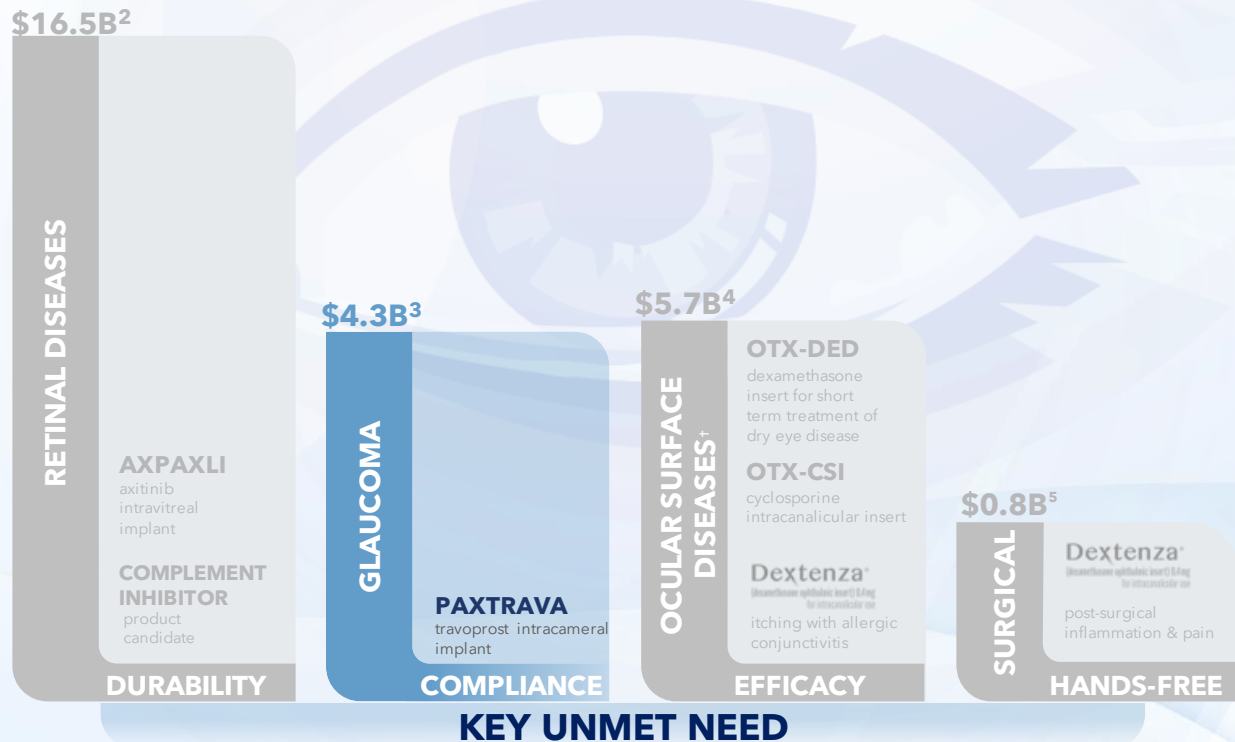
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● AXPAXLI 600 μ g single implant injection

○ Sham injection

Next Steps: Top-line 9-month clinical data from HELIOS expected in Q2 2024

OUR GLAUCOMA PRODUCT CANDIDATE IS BEING DEVELOPED TO POTENTIALLY SOLVE THE ISSUE OF INADEQUATE PATIENT COMPLIANCE ASSOCIATED WITH DROP THERAPY¹



PAXTRAVA, TRAVOPROST DELIVERED USING ELUTYX, HAS THE POTENTIAL TO EXTEND TREATMENT FOR UP TO SIX MONTHS

PAXTRAVA (travoprost intracameral implant)



Travoprost (Active Ingredient)

- FDA-approved active ingredient for the reduction of IOP in patients with open angle glaucoma or ocular hypertension
- Encapsulated in microparticles for controlled and sustained delivery over months^{1,2}

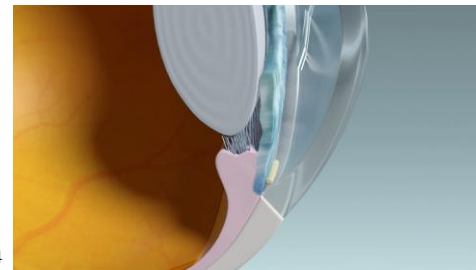
ELUTYX Technology (Delivery Vehicle)

- Demonstrated biocompatibility with low potential for inflammation³
- Highly programmable bioresorption³

PAXTRAVA

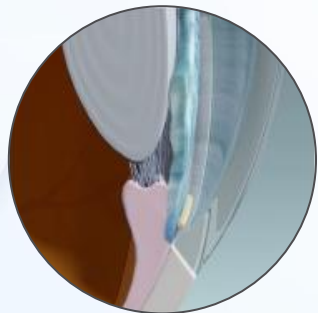
Novel biodegradable, travoprost implant using ELUTYX⁴

- Goal of delivering travoprost for 6 months or longer with a single implant⁴
- Free of antimicrobial preservatives⁴
- Hands-free alternative to traditional chronic eye drop therapy⁴
- Administered via a single injection with proprietary injector (26G-27G)⁴
- Fully biodegradable⁵



PAXTRAVA SHOWED CLINICALLY-MEANINGFUL REDUCTIONS IN IOP FOR 6+ MONTHS WHILE PRESERVING CORNEAL HEALTH IN PHASE 1 TRIAL

PHASE 1 TRIAL



PAXTRAVA

BIOLOGICAL ACTIVITY & DURABILITY

- **Clinically-meaningful decrease in IOP**

IOP lowering effects comparable to travoprost topical therapy in the non-study eye as early as two days following administration

- **Therapy durability suggests extended duration of action over several months**

Duration of IOP-lowering effect:

- 6+ months in Cohort 1 (15 µg) and Cohort 2 (26 µg)
- 3-6 months in Cohort 3 (15 µg fast-degrading ELUTYX) and Cohort 4 (5 µg fast-degrading ELUTYX)
- Longest and most consistent IOP lowering in Cohort 2

SAFETY

- **Implant location observation suggests no movement**

Implant was not observed to move at slit lamp and was visible at all exams in all patients using gonioscopy

- **No clinically-meaningful change to corneal health over time**

Endothelial cell counts, pachymetry assessments, and slit lamp examinations indicate no changes from baseline

IMPLANT RESORPTION

- **Consistent implant resorption over time**

Implant biodegraded in 5-7 months (Cohorts 1 & 2); fast degrading implants biodegraded in 3-5 months (Cohorts 3 & 4)

OUR PHASE 1 TRIAL EVALUATED 19 SUBJECTS WITH GLAUCOMA OR OCULAR HYPERTENSION IN AN OPEN-LABEL, POC TRIAL

DESIGN

- Open-label, proof-of-concept study
- U.S. study, 19 subjects at 5 sites
- One eye per patient will be treated

KEY INCLUSION CRITERIA

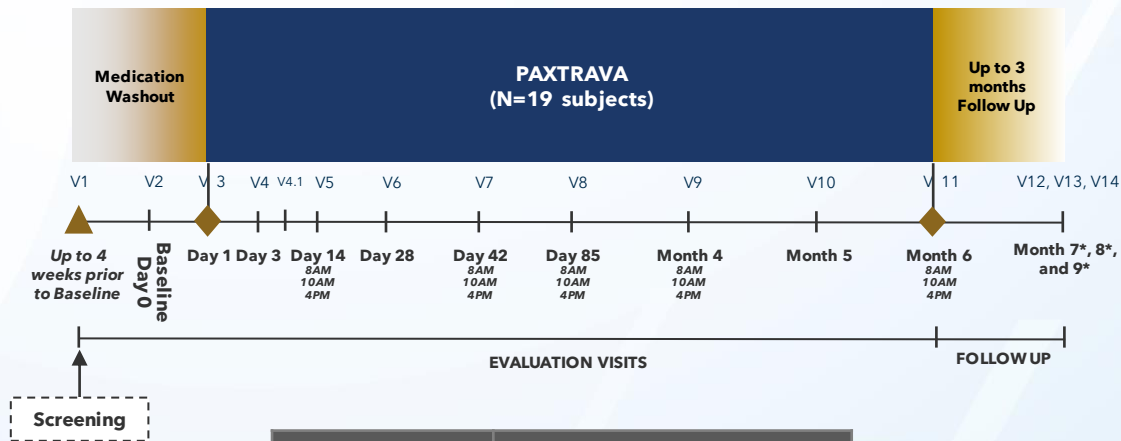
- Controlled ocular hypertension (HTN) or Primary Open Angle Glaucoma (POAG)
- Open, normal anterior chamber angles on gonioscopy

OBJECTIVES

- Safety, tolerability, and biological activity
- Diurnal IOP changes from baseline (8AM, 10AM, 4PM) at 2, 6, and 12 weeks, and 4, 6 months

NON-STUDY EYE TREATMENT

- Non-study eye receives topical PGA daily

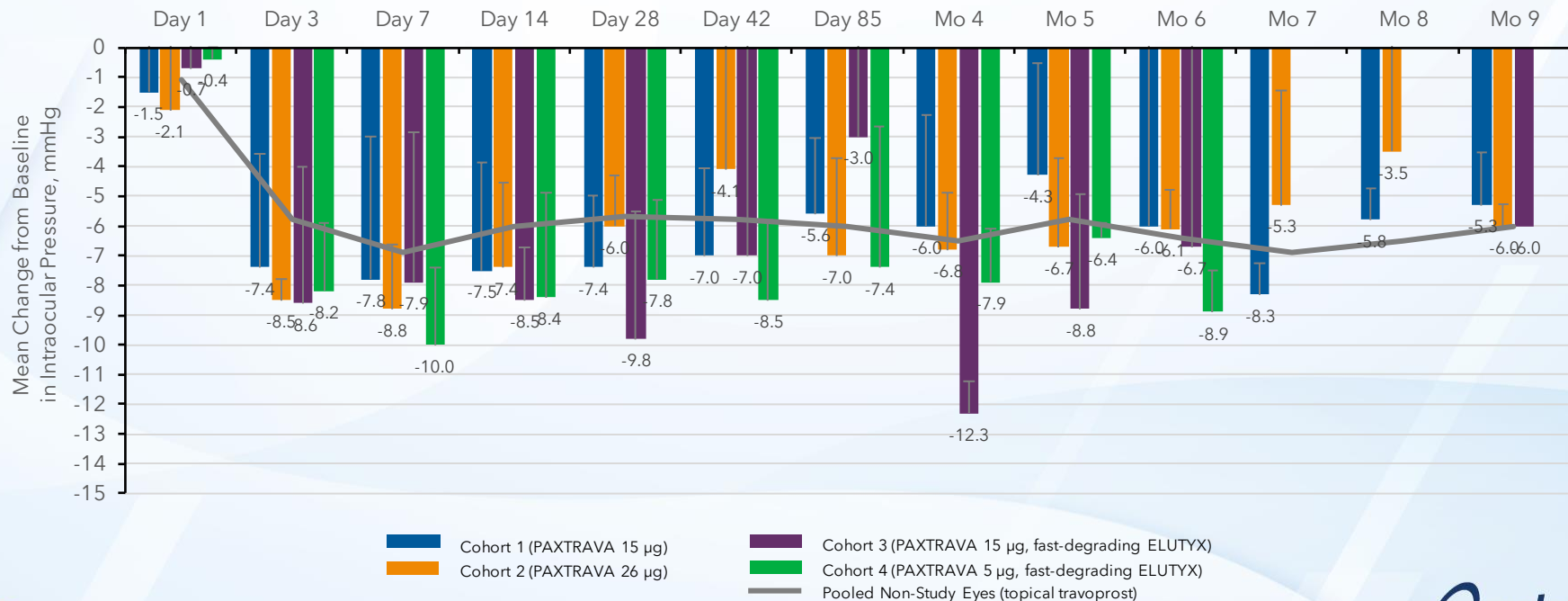


	PAXTRAVA Dose
Cohort 1 (n=5)	15 µg
Cohort 2 (n=4)	26 µg
Cohort 3 (n=5)	15 µg (fast-degrading ELUTYX)
Cohort 4 (n=5)	5 µg (fast-degrading ELUTYX)

A CLINICALLY-MEANINGFUL DECREASE IN IOP WAS SEEN IN ALL COHORTS AS COMPARED TO BASELINE

IOP reduction began two days following implantation of PAXTRAVA and was comparable to topical travoprost administered to the fellow eye

PHASE 1 TRIAL



PAXTRAVA (26 UG) SHOWED THE MOST CONSISTENT RESPONSE IN ALL SUBJECTS, WITH 100% NOT REQUIRING RESCUE THROUGH MONTH 7

PHASE 1 TRIAL

Percentage of Study Eyes Not Requiring Rescue Therapy After a Single Implant Administration

	Day 42 % (n/N)	Day 85 % (n/N)	Month 4 % (n/N)	Month 5 % (n/N)	Month 6 % (n/N)	Month 7 % (n/N)	Month 8 % (n/N)	Month 9 % (n/N)	Month 10-22 % (n/N)
Cohort 1 (15 µg) N=5	100% (5/5)	100% (5/5)	80% (4/5)	80% (4/5)	60% (3/5)	40% (2/5)	40% (2/5)	40% (2/5)	20 (1/5)
Cohort 2 (26 µg) N=4	100% (4/4)	100% (4/4)	100% (4/4)	100% (4/4)	100% (4/4)	100% (4/4)	75% (3/4)	50% (2/4)	NA
Cohort 3 (15 µg) (Fast-degrading) N=5	100% (5/5)	60% (3/5)	40% (2/5)	40% (2/5)	40% (2/5)	20% (1/5)	20% (1/5)	20% (1/5)	NA
Cohort 4 (5 µg) (Fast-degrading) N=5	100% (5/5)	100% (5/5)	80% (4/5)	80% (4/5)	80% (4/5)	NA	NA	NA	NA
All Cohorts N=19	100% (19/19)	89% (17/19)	74% (14/19)	74% (14/19)	68% (13/19)	50% (7/14)	43% (6/14)	36% (5/14)	20% (1/5)



PHASE 2 TRIAL EVALUATING PAXTRAVA COMPARED TO DURYSTA HAS COMPLETED ENROLLMENT

PHASE 2 TRIAL

DESIGN

- Prospective, multi-center, randomized, parallel-group, controlled study with approximately 105 subjects at 15-20 U.S. sites

KEY INCLUSION CRITERIA

- Controlled ocular hypertension or Primary Open Angle Glaucoma
- Open, normal anterior chamber angles on gonioscopy

OBJECTIVES

- Safety, tolerability, and efficacy
- Diurnal IOP changes from baseline (8AM, 10AM, 4PM) at 2, 6, and 12 weeks

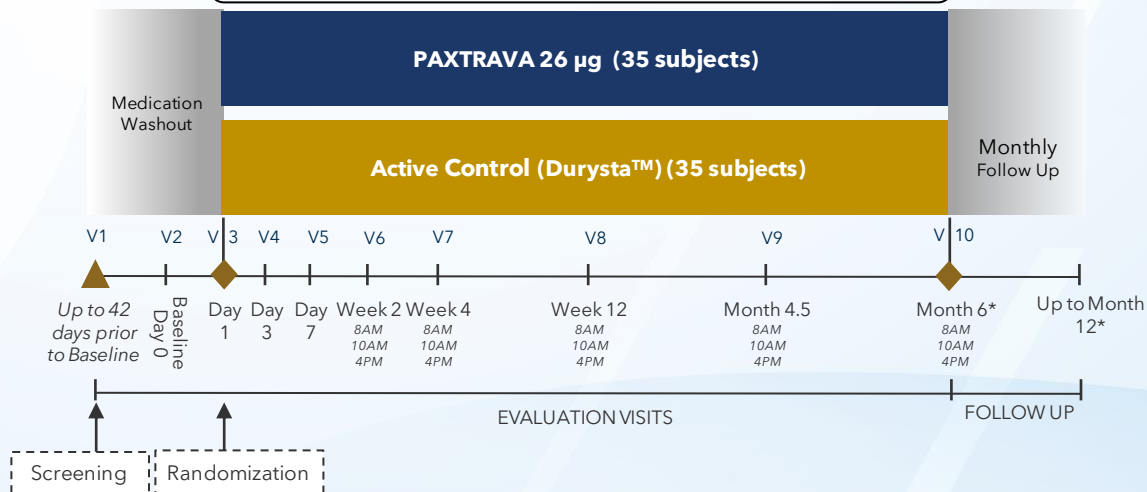
NON-STUDY EYE TREATMENT

- Non-study eye receives topical PGA daily

ACTIVE COMPARATOR

- Control arm eye receives one injection of Durysta™

- Enrollment of PAXTRAVA 5 ug arm discontinued** in Q4 2022 due to IOP elevations observed only in the 5 ug arm

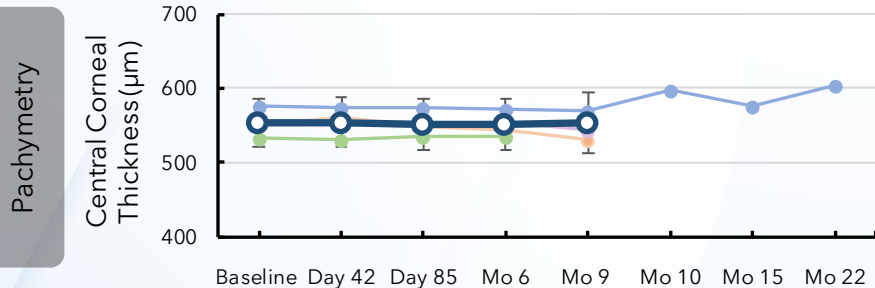


TOPLINE DATA FROM PHASE 2 TRIAL TO BE PRESENTED AT ASCRS IN APRIL 2024

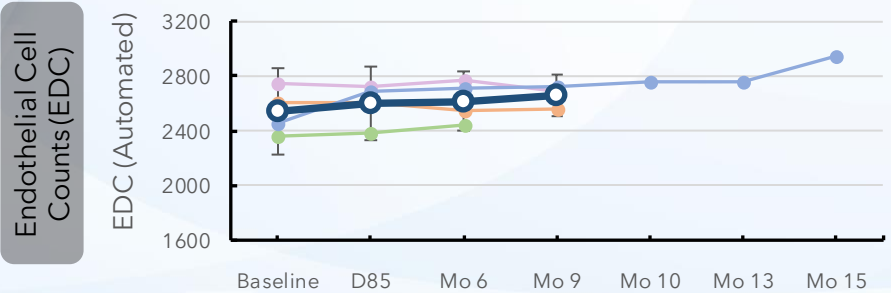
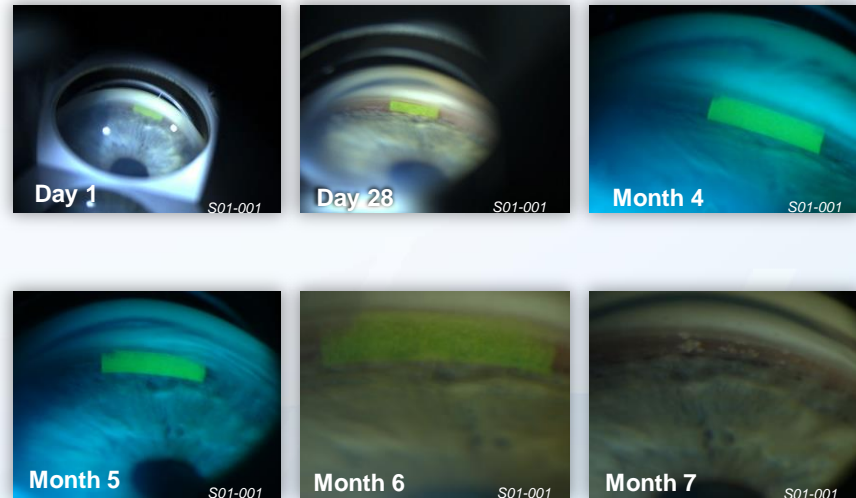
IN ALL PATIENTS, THERE WAS NO IMPACT ON CORNEAL HEALTH AND CONSISTENT IMPLANT RESORPTION WAS OBSERVED

PHASE 1 TRIAL

No Observed Clinically-Meaningful Change to Corneal Health Over Time

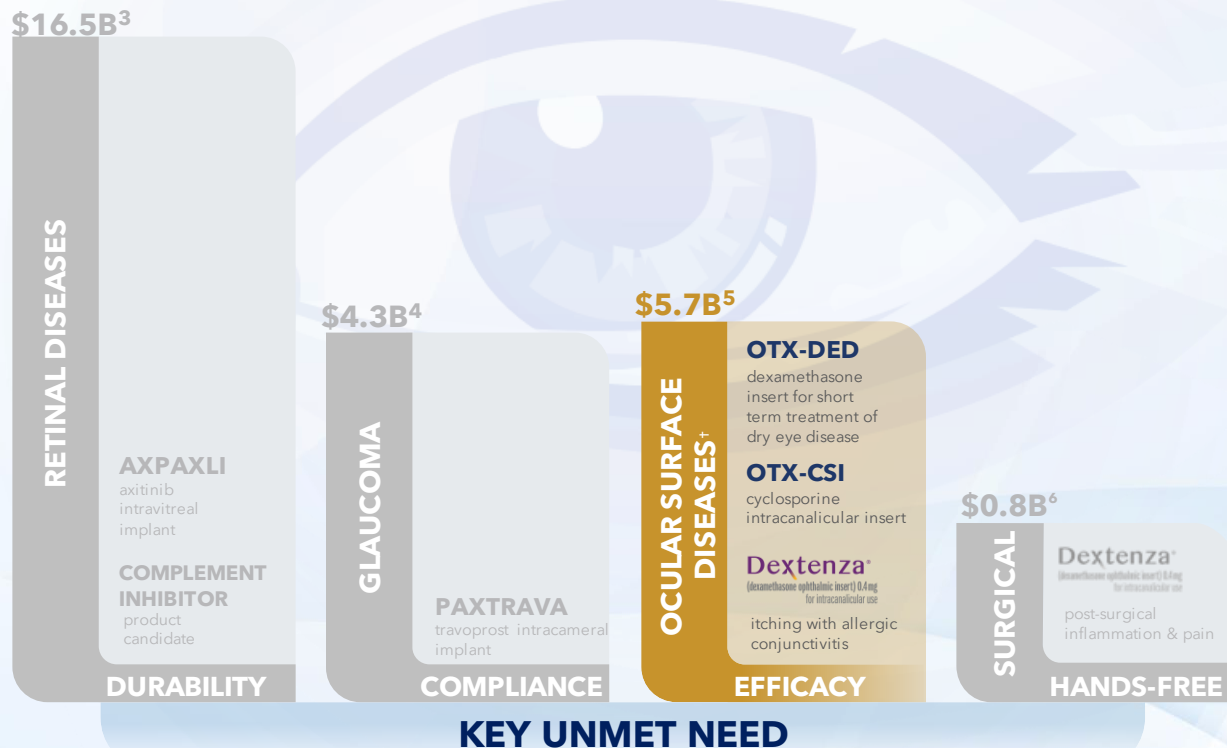


Consistent Implant Resorption Over Time



- All Cohorts (N=19)
- Cohort 1 (PAXTRAVA 15 µg; N=5)
- Cohort 2 (PAXTRAVA 26 µg; N=4)
- Cohort 3 (PAXTRAVA 15 µg, fast-degrading ELUTYX; N=5)
- Cohort 4 (PAXTRAVA 5 µg, fast-degrading ELUTYX; N=5)

OUR OCULAR SURFACE DISEASE PRODUCT CANDIDATES ARE BEING DEVELOPED TO POTENTIALLY ADDRESS THE ISSUE OF COMPLIANCE AND TREATMENT DISCONTINUATION^{1,2}



WE HAVE DESIGNED PRODUCT CANDIDATES TO POTENTIALLY IMPROVE EFFICACY FOR BOTH THE SHORT-TERM AND CHRONIC TREATMENT OF DRY EYE

OTX-DED (dexamethasone intracanalicular insert)

KEY PRODUCT ATTRIBUTES¹

- Dexamethasone (0.2 mg or 0.3 mg) loaded in ELUTYX technology
- Free of antimicrobial preservatives
- Designed to deliver therapy for up to 14 to 21 days with a single insert
- Occludes the punctum
- Fully biodegradable insert
- Leverages safety profile of DEXTENZA

OTX-CSI (cyclosporine intracanalicular insert)

KEY PRODUCT ATTRIBUTES²

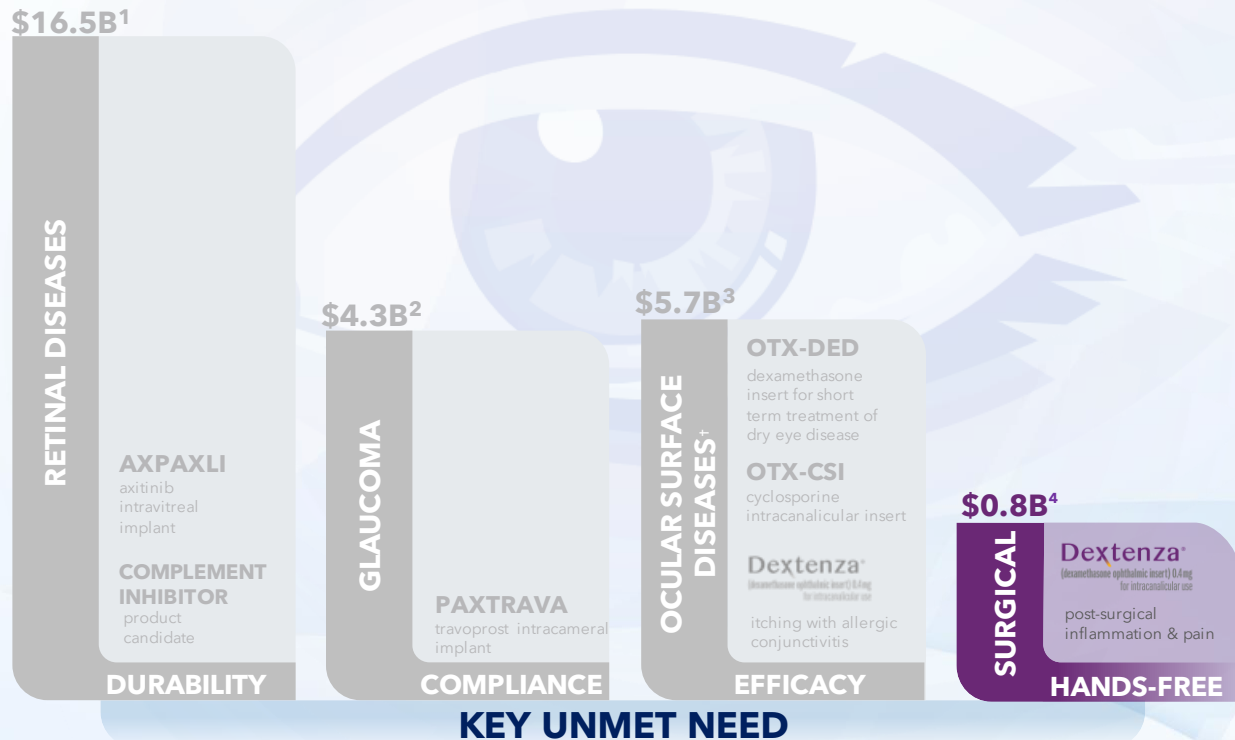
- Cyclosporine loaded in ELUTYX technology
- Free of antimicrobial preservatives
- Designed to deliver therapy for up to 12 weeks with a single insert
- Occludes the punctum
- Fully biodegradable insert

OTX-DED AND OTX-CSI FUTURE CLINICAL DEVELOPMENT

Results from Phase 2 trials,^{3,4} necessitate the need to develop an appropriate vehicle comparator to set the foundation for dry eye clinical development programs

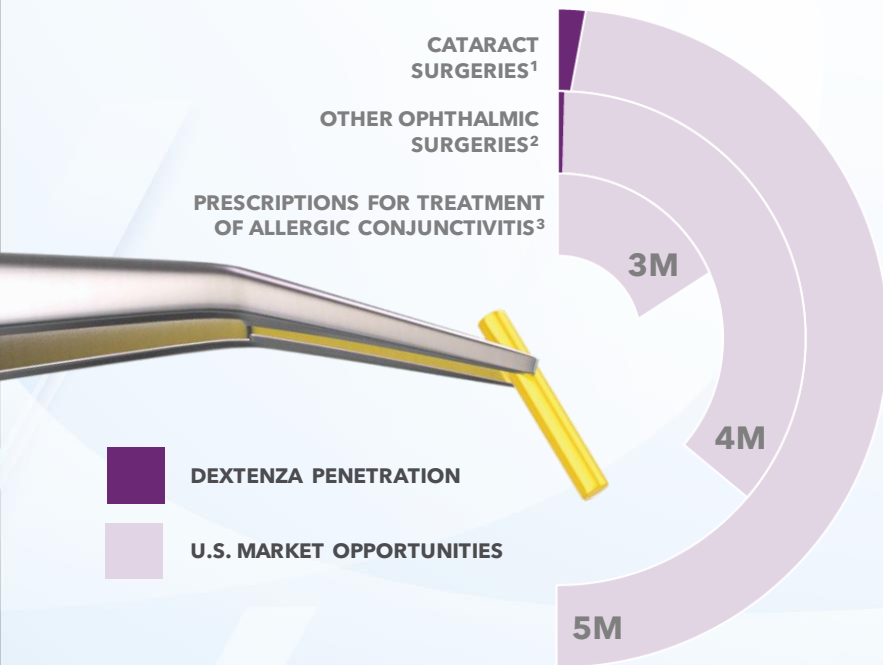
SMALL STUDY INITIATED IN Q2 2023 TO IDENTIFY A PROPER PLACEBO CONTROL FOR FUTURE STUDIES

DEXTENZA REDUCES THE COMPLEX POSTOPERATIVE DROP REGIMEN



THE EXISTING MARKET OPPORTUNITY FOR DEXTENZA IN THE U.S. IS POTENTIALLY LARGE

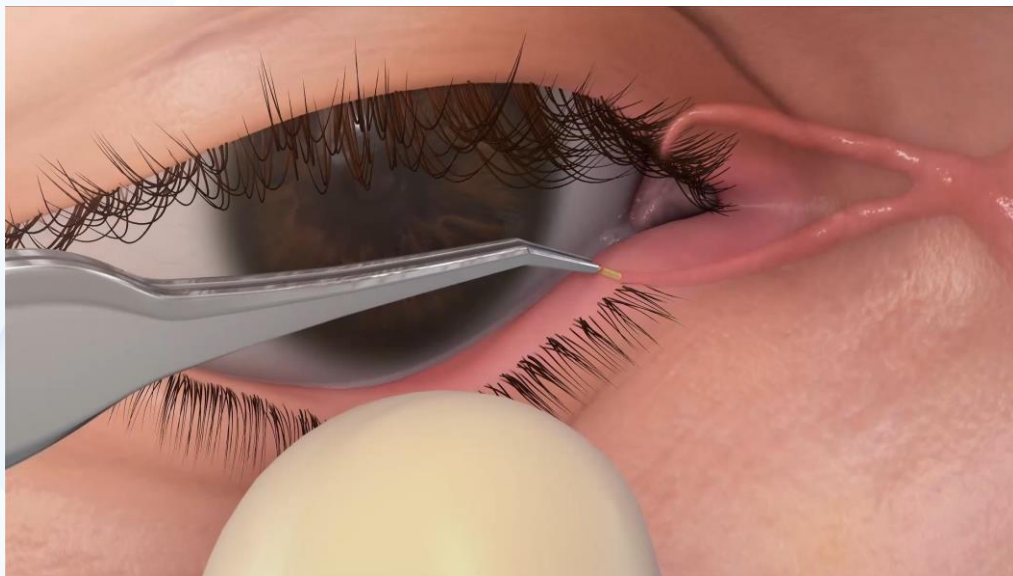
Numerous Growth Drivers Have Potential to Deliver Penetration in Large, Attractive Markets



Market Opportunities

- ✓ Opportunity in surgery starts with Medicare Part B cataract procedures but builds to other ophthalmic surgeries across all payers
- ✓ Current market opportunity for DEXTENZA in cataract surgery alone at an assumed 20% penetration is estimated to be \$500M per year
- ✓ Opportunity in surgery starts with cataract procedures but builds to other ophthalmic surgeries

DEXTENZA IS AN ALTERNATIVE WAY TO DELIVER STEROID TO THE OCULAR SURFACE



BENEFICIAL FOR PATIENTS¹⁻⁴

- Eliminates need for steroid eye drops for most patients
- Hands-free
- No need for caregiver to administer steroid
- Ideal solution for poor drop compliance
- Occludes the punctum leaving more tears to soothe the ocular surface
- Preservative free
- No need for removal



BENEFICIAL FOR CLINICIANS^{1,3,5}

- Puts control back in the hands of the physician
- Delivers 0.4mg dexamethasone for up to 30 days
- May prevent overuse of steroid by patients





BENEFICIAL FOR PRACTICE/STAFF⁶

- Saves time for practice on callbacks and patient education

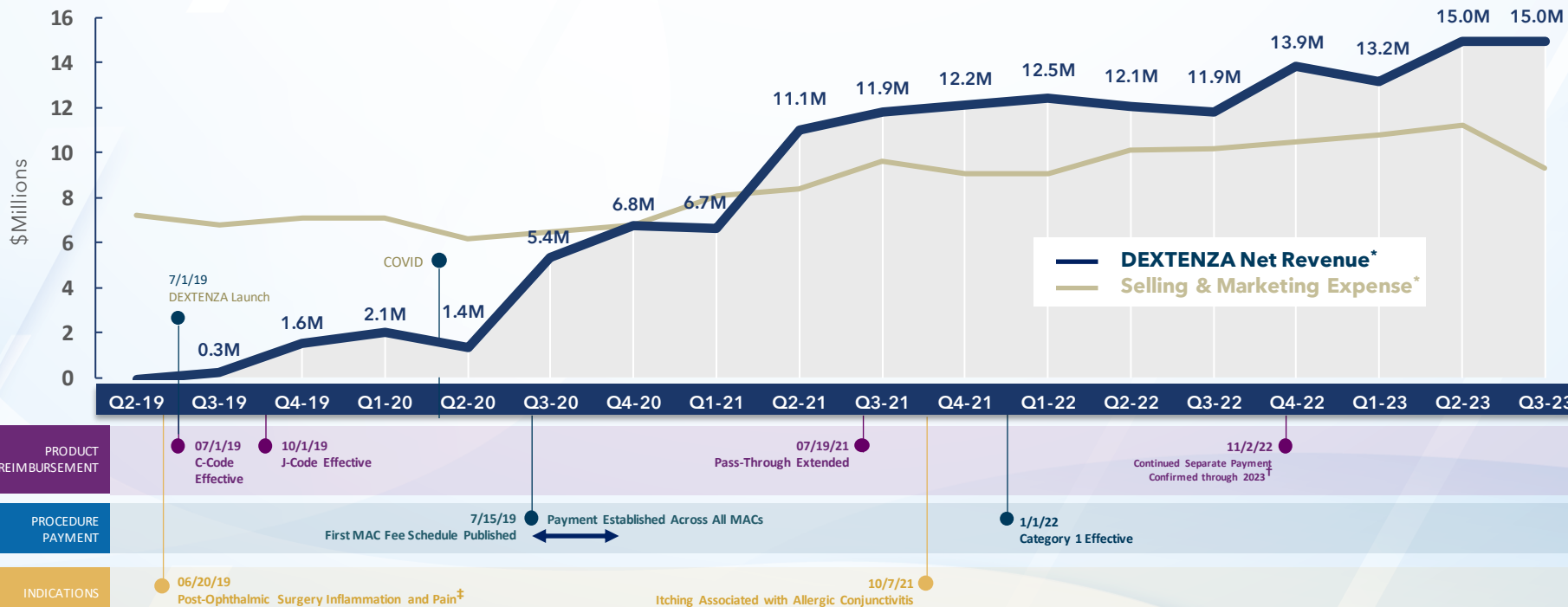


DEXTENZA OFFERS ATTRACTIVE PATIENT, PHYSICIAN, AND PRACTICE ECONOMICS

DEXTENZA® (Medical Benefit) vs Standard of Care (Pharmacy Benefit)

	PATIENTS	DOCTORS	SITE OF CARE
 <p>MEDICAL BENEFIT</p> <p>Dextenza® (dexamethasone ophthalmic insert) 0.4mg for intracanalicular use</p>	<p>+</p> <p>No Co-pay for Patients*</p> <ul style="list-style-type: none"> Practice purchases DEXTENZA 	<p>+</p> <p>Physician Administered</p> <ul style="list-style-type: none"> Physician paid for administration 	<p>+</p> <p>Practice Economics</p> <ul style="list-style-type: none"> ASP + (up to) 6% drug payment Opportunity for rebate
 <p>PHARMACY BENEFIT</p> <p>Standard of Care</p>	<p>-</p> <p>Patients pay out-of-pocket for drug at pharmacy</p>	<p>-</p> <p>No physician payment for insertion procedure or drug</p>	<p>-</p> <p>Likely no improvement to practice economics</p>

NET REVENUE OF DEXTENZA HAS SURPASSED SALES AND MARKETING EXPENSES AND CONTINUES OVERALL GROWTH



* DEXTENZA Net product revenue and †Selling and Marketing expense as reflected on the Company's quarterly income statements and in the company's periodic reports.
 † Per 2022 OPPS final rule, CMS identified DEXTENZA as a product that would qualify for separate payment in the ASC setting as a non-opioid pain management drug
 ‡ Indication for post-surgical pain was approved in November, 2018

WE HAVE COMPREHENSIVE INTELLECTUAL PROPERTY TO SAFEGUARD OUR INNOVATIONS



PATENTS

Commercial Product Patents

- 3 patents for DEXTENZA in Orange Book (expiration: 2037)

Highlighted Pipeline Patents

- AXPAXLI patents expiring 2041; patent application expected expiration 2044
- PAXTRAVA patents expiring 2041

Extensive international patent protection for DEXTENZA and pipeline products

FDA

REGULATORY

Drug delivery via non-standard dosage forms

- Non-systemic therapies
- No established pathway for traditional generic
- Potential competitors would be required to invest time and capital in full clinical trials



MANUFACTURING

Technical know-how of core ELUTYX technology

- Fully integrated manufacturer
- Proprietary know-how developed over more than 15+ yrs
- Covered by trade secrets

WE ARE WELL POSITIONED TO BECOME A STRATEGIC PLAYER IN THE OPHTHALMOLOGY SPACE



Commercial Excellence in U.S. buy-and-bill space

- DEXTENZA is now product contribution positive*
- Future opportunities in retina



Innovation Potential

- Strong pipeline targeting major unmet needs in select indications within markets with \$25B in estimated global annual sales
- Highly leverageable core ELUTYX technology for new product opportunities
- Clinical/regulatory expertise in front and back of the eye

AffaMed
Therapeutics

Corporate Development

- Established collaboration with AffaMed in Asia
- Able to out-license technology and ex-U.S. rights to products and product candidates as a source of non-dilutive capital
- Strong balance sheet

(NASDAQ: OCUL)

OCULAR THERAPEUTIX

CORPORATE PRESENTATION

JANUARY 2024

THANK YOU