(NASDAQ: OCUL)

OCULAR THERAPEUTIX

Evolving into a leading retina company

Pravin U. Dugel, MD
Executive Chairman

Ocular Therapeutix™

Eyecelerator | 4 April 2024

FORWARD LOOKING STATEMENTS AND DISCLAIMERS

Any statements in this presentation about future expectations, plans, and prospects for the Company, including the development and regulatory status of the Company's product candidates, including the timing, design, and enrollment of the Company's pivotal trials of AXPAXLI (also called OTX-TKI) for the treatment of wet AMD; the Company's plans to advance the development of AXPAXLI, PAXTRAVA and its other product candidates; the size of potential markets for our product candidates; 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 initiation, design, timing, conduct and outcomes of clinical trials, including the SOL-1 trial, the planned SOL-2 trial and the Company's other ongoing clinical trials; the risk that the FDA will not agree with the Company's interpretation of the written agreement under the SPA for the SOL-1 trial; the risk that even though the FDA has agreed with the overall design of the SOL-1 trial, the FDA may not agree that the data generated by the SOL-1 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 or utilize a different formulation 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 product candidates; 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; the 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 product candidates in development. Their efficacy and safety profiles have not been established, and they have not been approved for marketing by the FDA.

Ocular Therapeutix™

MISSION: IMPROVE VISION IN THE REAL WORLD

Bridge the gap with proven therapies: Optimizing drug delivery to reduce burden and increase treatment effect

CURRENT THERAPIES IN THE OPHTHALMIC SPACE HAVE CHALLENGES RELATING TO…	ADDRESSING THROUGH OPTIMIZED DRUG DELIVERY
Limited half-life of drugs requiring frequent dosing to maintain therapeutic levels, creating compliance issues	**Sustained drug release**
Pulsatile dosing is suboptimal	**Favorable elution profile** which potentially improves chronic outcomes
Molecule choices limited due to issues like size or poor stability	**Tailored and targeted delivery** of multiple molecule options to meet specific ocular disease requirements

Downs P. *2023 retinal pharmaceuticals market report: Global analysis for 2022 to 2028.* Market Scope; 2023.

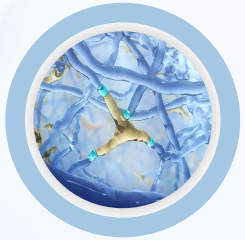
Ocular Therapeutix™

PROVEN ELUTYX™ TECHNOLOGY

From idea to eye care:

Ocular Therapeutix's established track record in ophthalmic product development

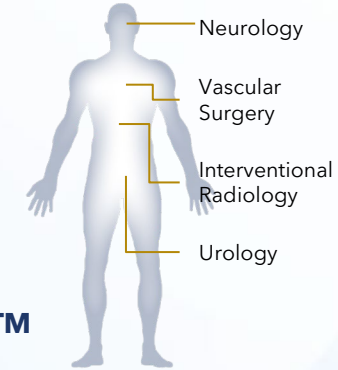
1992



Hydrogel platform which forms the basis for ELUTYX™ technology invented by Amar Sawhney, PhD

Hydrogel technology used in other specialties outside the eye **with multiple FDA-approved devices**[1]

Over 5M patients treated with therapies utilizing hydrogel platform[2]



2006

Company established to bring ELUTYX™ technology to eye care, with core formulation and device expertise

Versatility of technology enables tailoring innovations for targeted ophthalmic applications

2017

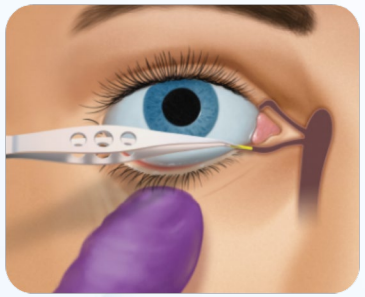
Leadership changes add pharma expertise

DEXTENZA®′: **FDA approved and successfully launched**[3]

Establish a **broad ophthalmology pipeline** on ELUTYX™ technology

1. Almawash S, et al. *Pharmaceuticals (Basel).* 2022;15(3):371.
2. Stuart M. Instylla: An easy, predictable, and simpler way to embolize tumors. *MedTech Strategist.* 2021.
3. US FDA Center for Drug Evaluation and Research. Approval Package for: APPLICATION NUMBER: 208742Orig1s000. November 30, 2018.

DEXTENZA® SHOWCASES OUR SUCCESS USING THE ELUTYX™ TECHNOLOGY IN OUR FIRST COMMERCIAL DRUG



DEXTENZA: First and only FDA-approved drug-eluting intracanalicular insert providing up to 30 days of sustained steroid coverage[2]

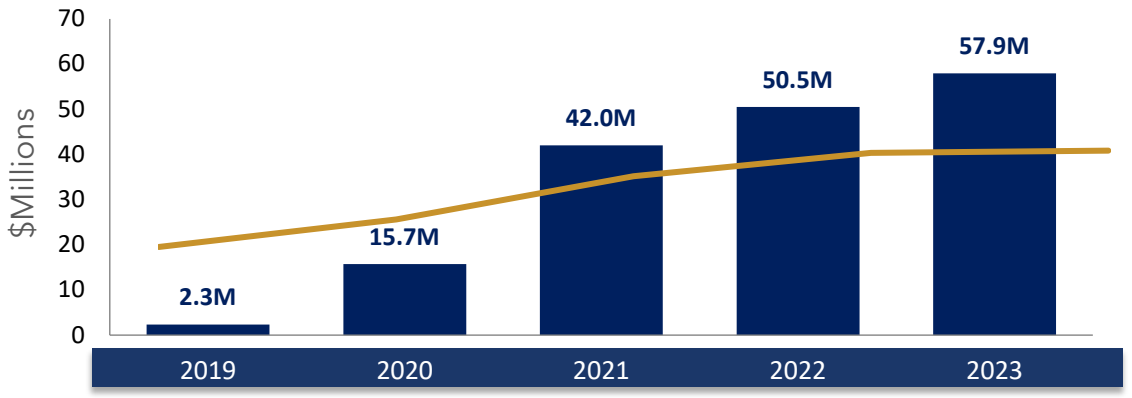
Sustained relief of inflammation and pain, **reduces steroid drop burden**

Concept-to-approval: 7 years

Nearly **400,000 eyes** treated to date

Consistent revenue growth year over year

NET REVENUE



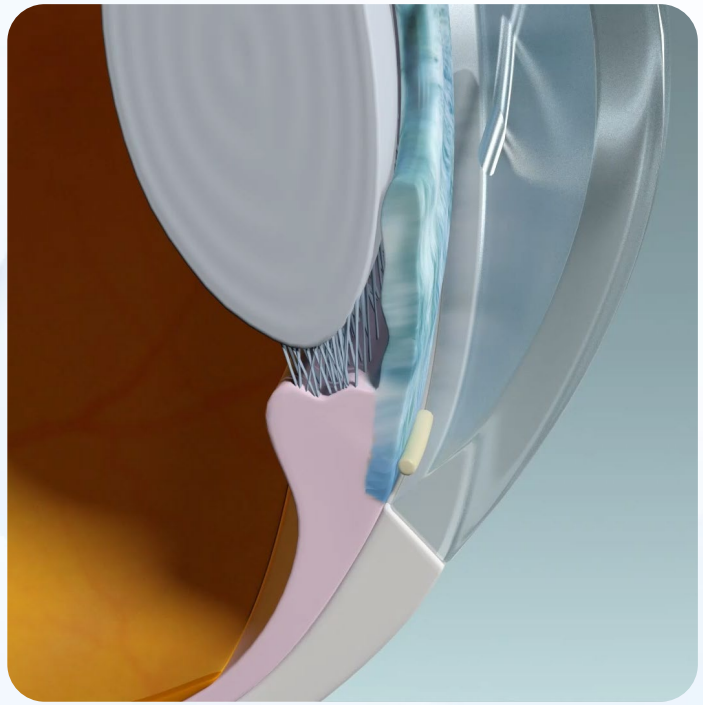
* DEXTENZA Net product revenue and †Selling and Marketing expense as reflected on the Company's quarterly income statements and in the company's periodic reports.

1. Ocular Therapeutix data on file.
2. DEXTENZA [package insert]. Bedford, MA: Ocular Therapeutix, Inc; 2021. **FULL PRESCRIBING INFORMATION**

Ocular Therapeutix™

PAXTRAVA™ OFFERS THE POTENTIAL FOR TARGETED, CONTINUOUS, CONSISTENT IOP CONTROL IN GLAUCOMA MANAGEMENT

TOPLINE DATA FROM PHASE 2 TRIAL EVALUATING PAXTRAVA TO BE PRESENTED AT ASCRS



Sizable opportunity with over 10M patients with open-angle glaucoma or ocular hypertension in US[1]

Designed to deliver travoprost for 6 months or longer from a single completely bioresorbable implant[2]

Administered via a single 26G injection intracamerally[2]

1. Downs P. *2023 glaucoma pharmaceuticals market report: Global analysis for 2022 to 2028.* Market Scope; 2023
2. Blizzard C, Desai A, et al, US patent 11,622,935 B2. April 11, 2023

Ocular Therapeutix™

DEVELOPING AXPAXLI™ FOR RETINAL VASCULAR DISEASES TO ADDRESS CURRENT CHALLENGES WITH EXISTING TREATMENTS

TREATMENT BURDEN

Anti-VEGF dosing frequencies are burdensome, contributing to vision loss over time[1]

POOR LONG-TERM OUTCOMES

Treatment Discontinuation: Dosing regimens are a burden to patients and the main driver of treatment discontinuation[2]

Retinal Fluctuations: Pulsatile dosing causes retinal fluctuations between doses and can lead to worse outcomes due to fibrosis and atrophy[3,4]

Sub-optimal response to current VEGF-A focused options: Precipitates the need for novel treatment approaches and/or mechanisms of action[5]

THE AXPAXLI OPPORTUNITY

Potential for improved long-term outcomes with a sustainable and non-pulsatile treatment, providing pan-VEGFR inhibition

1. Khanani AM, et al. *Ophthalmol Retina.* 2020;4(2):122-133.
2. Weber M, et al. *BMJ Open Opthalmol*. 2020; 5(1)
3. Llorente-González S, et al. *Acta Ophthalmol.* 2022;100(2):e521-e531.
4. Evans RN, et al. *JAMA Ophthalmol.* 2020;138(10):1109.
5. Khachigian LM, et al. *J Transl Med*. 2023; 21(1).

Ocular Therapeutix™

OCULAR THERAPEUTIX: TRANSFORMATION INTO A RETINA-FOCUSED COMPANY

3 PILLARS

1 AXPAXLI™ PROMISING DATA TO DATE

AXPAXLI Proof-of-Concept Demonstrated **as a monotherapy** in Australia Phase 1 Trial

Potential **best-in-class durability** shown in US Phase 1 Trial vs. aflibercept

Generally well-tolerated to date

2 DE-RISKING REGULATORY PATHWAY

Conducting SOL-1 trial of AXPAXLI under a **Special Protocol Assessment** agreed to by the FDA

3 TARGETING EXPANSIVE RETINAL VASCULAR DISEASE MARKETS

With focus on:

Improving **sustainability of treatment options**

Improving **long-term outcomes**

Opportunity **beyond wet AMD**

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IN TREATMENT NAÏVE SUBJECTS, AXPAXLI™ MONOTHERAPY DEMONSTRATED BIOLOGICAL ACTIVITY

AUSTRALIA TRIAL

Open-Label, Dose Escalation Trial

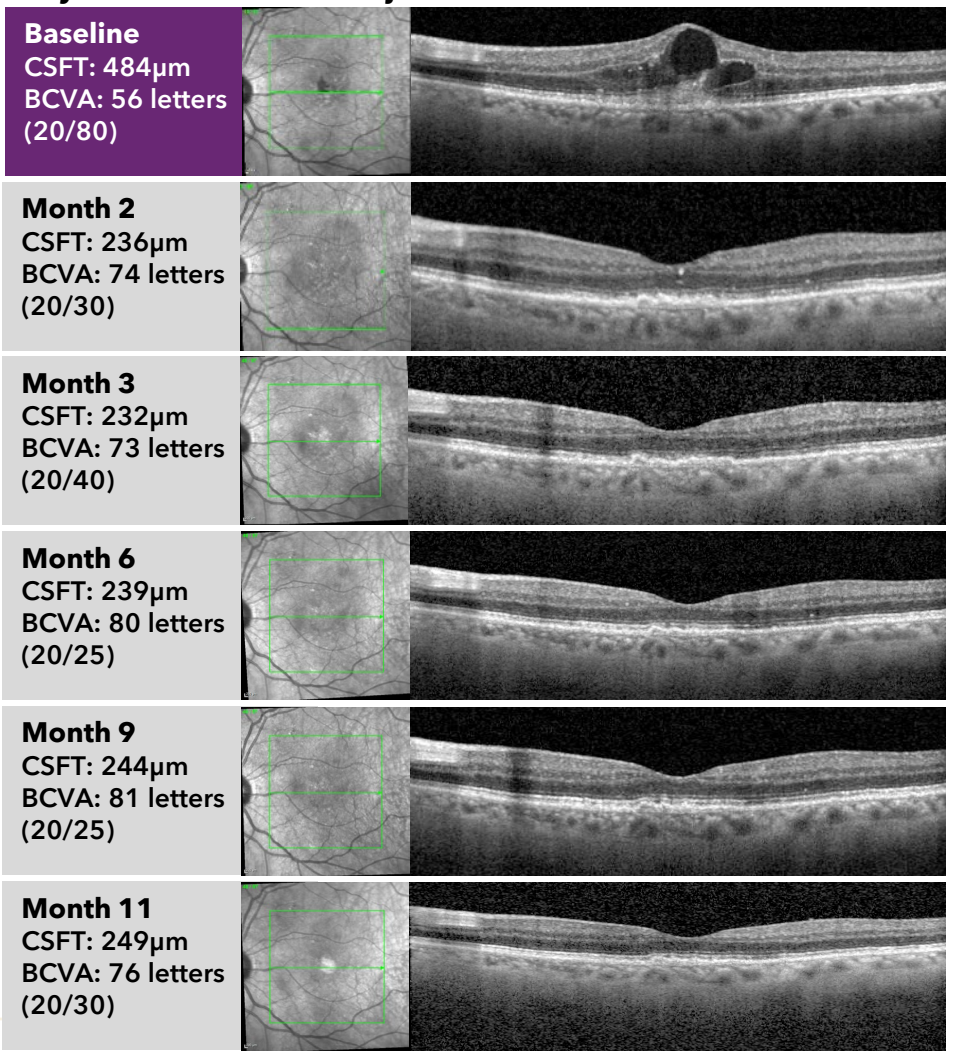
Demonstrated biological activity in treatment naïve subjects with pre-existing fluid, including those with no anti-VEGF exposure

Daily release rate with 600µg (3 x 200µg implants) demonstrated best outcomes

Acceptable safety profile with no drug related ocular or systemic serious adverse events reported

No retinal detachment, retinal vasculitis, or implant migration into the anterior chamber AEs reported

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



AE (Adverse event); BCVA (Best-corrected visual acuity); CSFT (Central subfield thickness).
Interim review, unmonitored data: data cut off August 5, 2022.
Moshfeghi A, et al. Presented at American Academy of Ophthalmology Meeting. September 2022.

AXPAXLI™ DEMONSTRATED POTENTIAL BEST-IN-CLASS TKI DURABILITY

U.S. TRIAL

Randomized, Masked, Controlled Trial

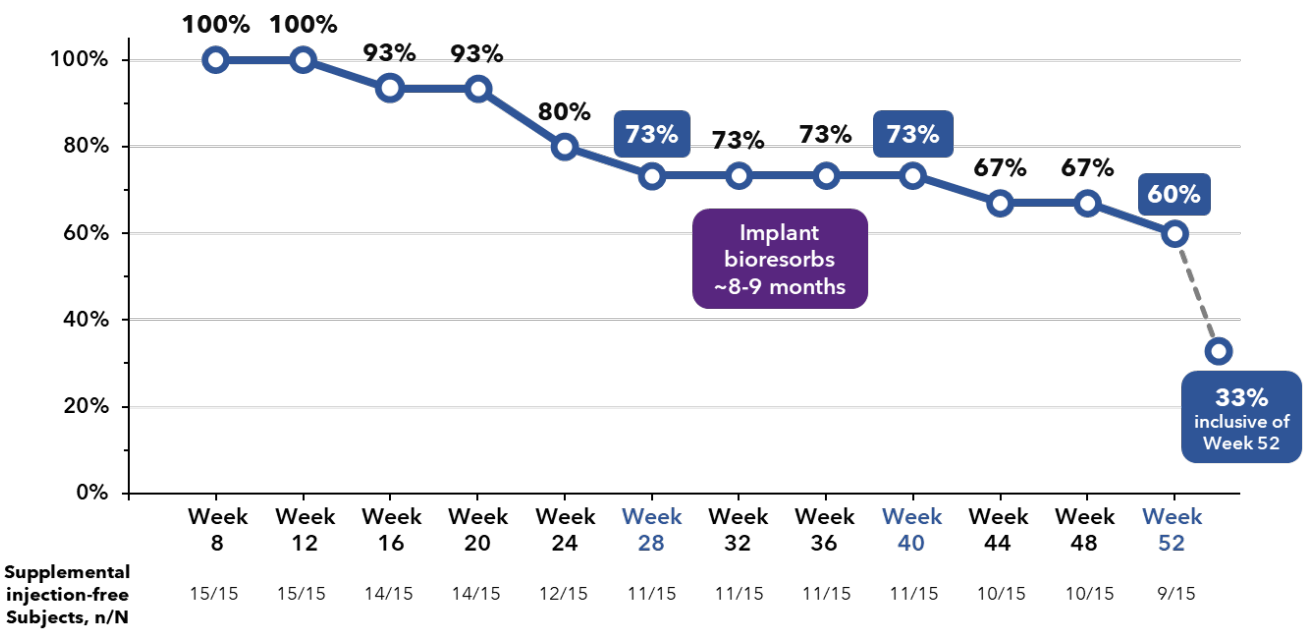
Demonstrated sustained and stable maintenance of fluid and vision for up to 12 months in previously treated wet AMD patients with controlled fluid

73% of AXPAXLI-treated subjects were supplemental injection-free up to 10 months and 60% up to 12 months

Implant bioresorbed ~8-9 months post-injection, with evidence of wet AMD disease reactivation following implant bioresorption

No drug-related ocular or systemic serious adverse events were reported

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



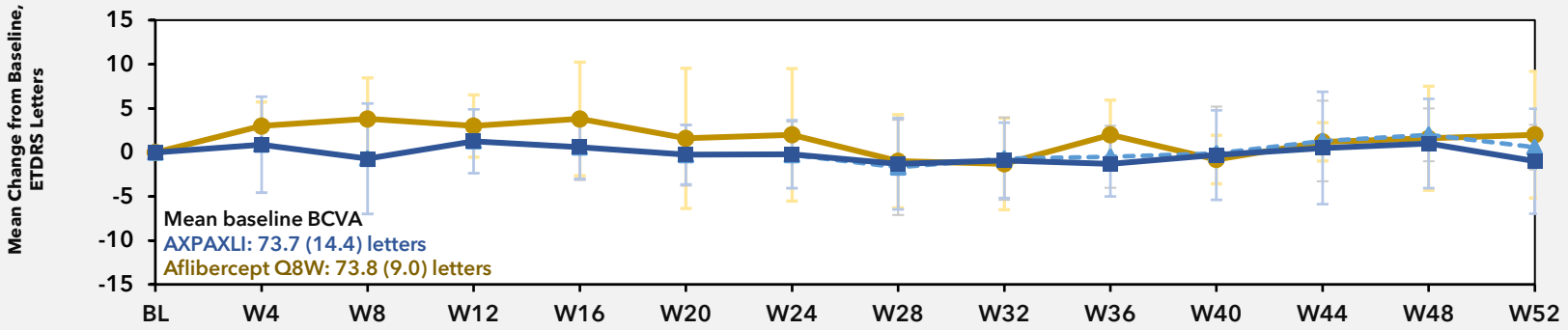
AMD (Age-related macular degeneration); TKI (Tyrosine kinase inhibitor).
Data cut off April 14, 2023
Rescue-free rate calculations: If subjects received rescue anti-VEGF therapy at a study visit, those were reflected to count at the following study visit in the graph above
Percentages presented in the graph above represent rescue-free rates up to each study visit, except for the 33% at Week 52 which includes rescue injections given at the Week 52 study visit.
Ocular Therapeutix data on file.

Ocular Therapeutix™

IN US PHASE 1, 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



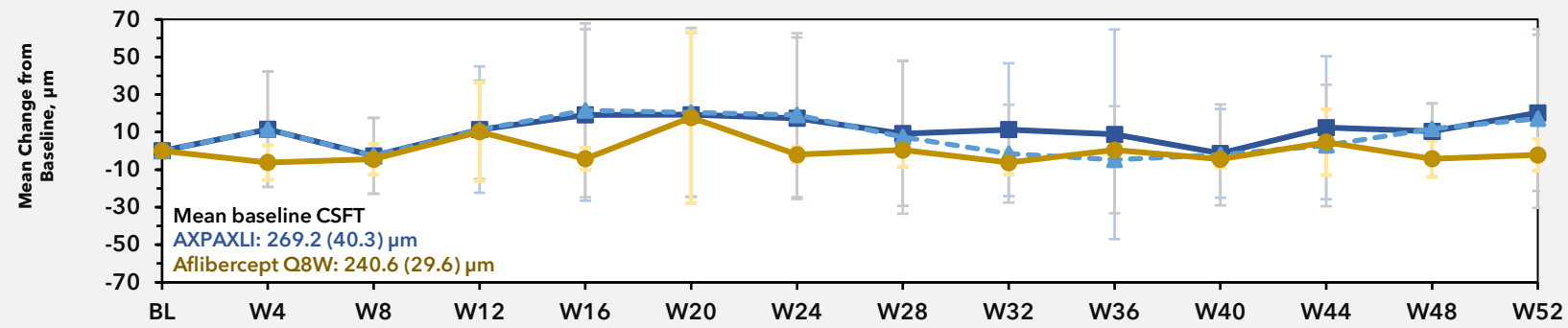
Mean (SD) change in BCVA from baseline to Week 52:

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)

AMD (Age-related macular degeneration) BCVA (Best-corrected visual acuity); CSFT (Central subfield thickness); ETDRS (Early Treatment Diabetic Retinopathy Study); Data cut off April 14, 2023.
* 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.
Khanani AM. Presented at the Clinical Trials at the Summit Meeting. June 10, 2023. Park City, UT.

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DE-RISKING REGULATORY PATH FOLLOWING NEW FDA GUIDELINES

Q1 2023 — New FDA Drug Development Guidance released for treatments of neovascular AMD

Q2 2023 — AXPAXLI pivotal trial design adapted to fit the guidance requirements

Special Protocol Assessment (SPA)

Q4 2023 — Received written agreement from FDA regarding initial proposed design of SOL-1 trial

Q1 2024 — Received written agreement from FDA regarding amended design of SOL-1 trial

First subjects screened Feb '24

SOL

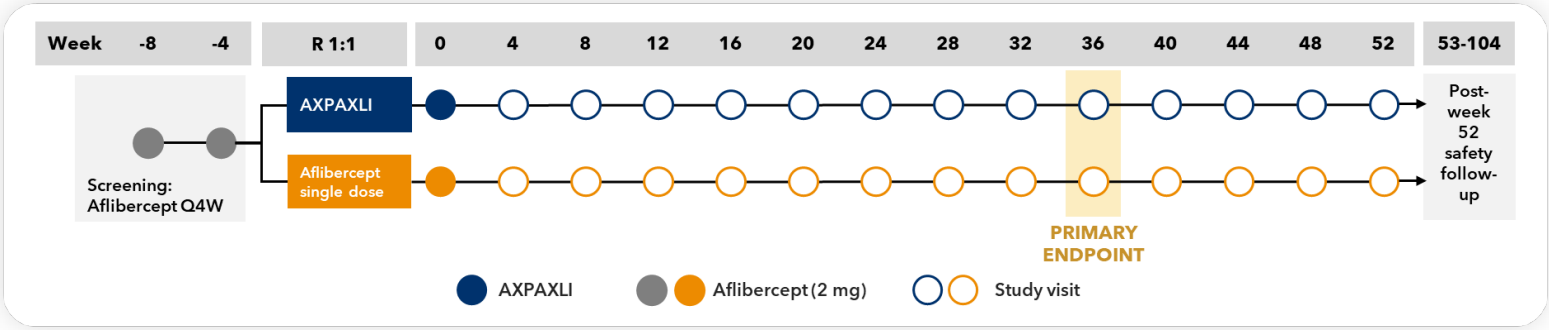
Multi-center, double-masked, randomized, parallel-group trial

DESIGN

- Primarily conducted in the U.S.
- Two arm trial with ~150 subjects per group

KEY INCLUSION CRITERIA

- 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



PRIMARY ENDPOINT

Proportion of subjects who maintained visual acuity, defined as <15 ETDRS letters of BCVA loss at Week 36

AMD (Age-related macular degeneration); BCVA (Best-corrected visual acuity); ETDRS (Early Treatment Diabetic Retinopathy Study).
Ocular Therapeutix data on file.

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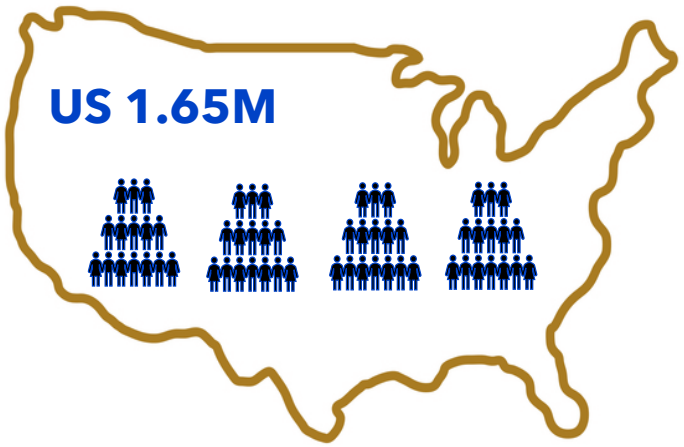
WET AMD: AXPAXLI™ HAS EXPANSIVE MARKET POTENTIAL

2024 US WET AMD PREVALENCE[1]



CURRENT WET AMD MARKET LANDSCAPE[1]

~50% of wet AMD patients are treated with anti-VEGFs[1]

Up to 40% discontinuation and getting worse over time[2,3]

AXPAXLI has the potential to address the challenges of

- ✓ **Undertreatment**
- ✓ **Discontinuation**
- ✓ **Vision decline**

over time associated with current anti-VEGF therapies[2]

AMD (Age-related macular degeneration); IVT (Intravitreal)

1. Downs P. *2023 retinal pharmaceuticals market report: Global analysis for 2022 to 2028*. Market Scope; 2023.
2. Weng CY et al. *Ophthalmic Surg Lasers Imaging Retina*. 2023 Nov;54(11):654-659.
3. MacCumber et al. *Canadian Ophthalmology Society*.2021; 10.1016/j.jcjo.2021.10.008.

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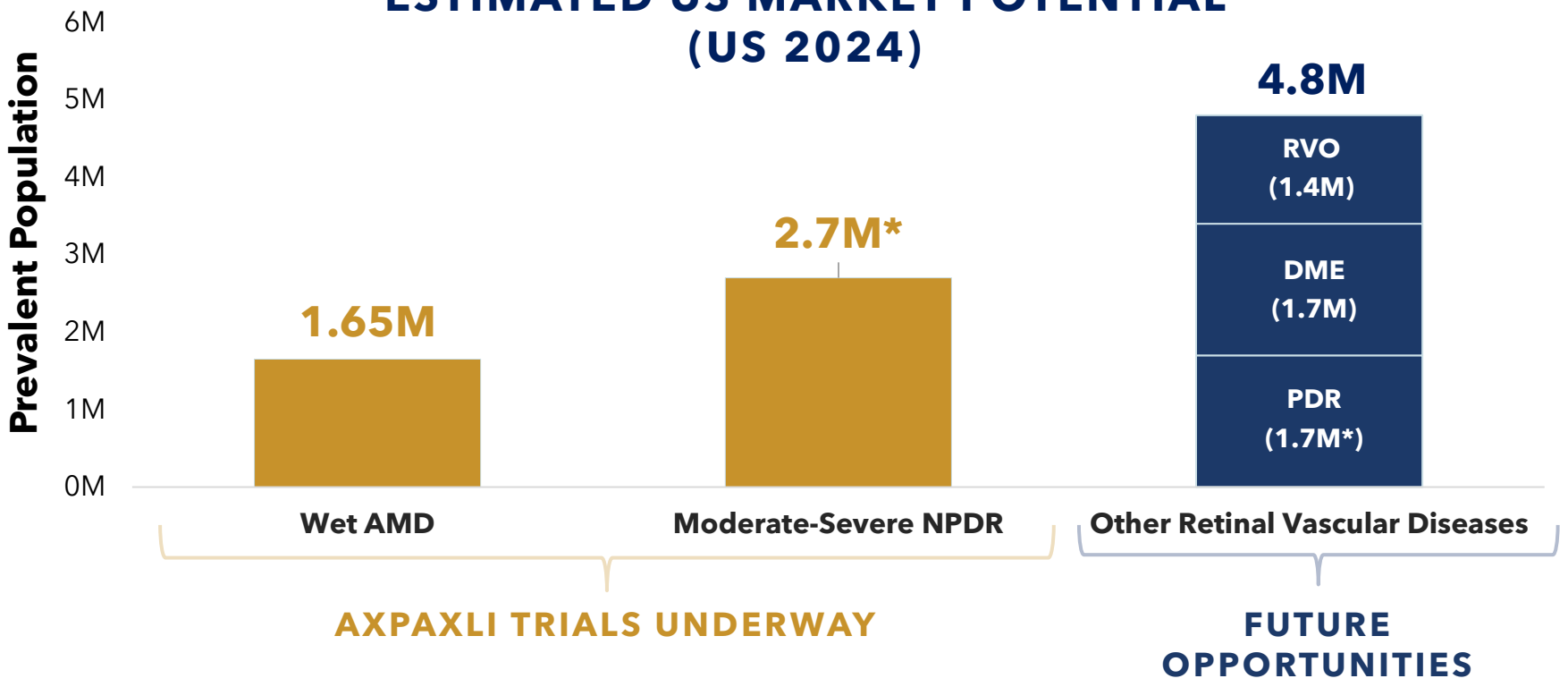
THE MARKET OPPORTUNITY FOR AXPALI™ EXTENDS BEYOND WET AMD



Total US Market Potential: **9.2M**

Ocular Therapeutix's management team is poised to address the full market potential

AMD (Age-related macular degeneration); DME (Diabetic macular edema); NPDR (Non-proliferative diabetic retinopathy); PDR (Proliferative diabetic retinopathy); RVO (Retinal vein occlusion).
* Excludes patients with DME as some patients have both NPDR/PDR and DME.
Downs P. *2023 retinal pharmaceuticals market report: Global analysis for 2022 to 2028*. Market Scope; 2023.

Ocular Therapeutix™

ACQUIRING WORLD-CLASS TALENT TO BUILD A LEADING RETINA COMPANY

Addition of strategic and clinical experts puts Ocular Therapeutix on track to be a leader in retina care

PRAVIN DUGEL, MD
Executive Chairman

PETER KAISER, MD
Medical Director

JEFFREY HEIER, MD
Chief Scientific Officer

SANJAY NAYAK, MBBS, PhD
Chief Strategy Officer

Ocular's strong leadership, with an established track record of guiding products from conception to market, e.g. DEXTENZA®

OCULAR THERAPEUTIX EXECUTIONAL EXCELLENCE

Existing team complimented by retina expertise help Ocular Therapeutix transition to a leader in retina care

Resourced for Success:[1]

$325M PIPE raised at time of announcement

>$1B in Market Cap*

Ocular Therapeutix. Press Release: Ocular Therapeutix™ reports fourth quarter and full year 2023 results. March 11, 2024. Available at: https://investors.ocutx.com/node/12611/pdf
*As of March 25, 2024

PIPE: Private Investment in Public Equity

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