EyePoint® PHARMACEUTICALS

Investor Presentation

January 2023

Forward-Looking Statements

Various statements made in this presentation are forward-looking, within the meaning of the U.S. Private Securities Litigation Reform Act of 1995, and are inherently subject to risks, uncertainties and potentially inaccurate assumptions. All statements that address activities, events or developments that we intend, expect, plan or believe may occur in the future, including but not limited to statements about our expectations regarding the potential benefits of our partnerships and strategic alliances with other companies, as well as the timing and clinical development of our product candidates, including EYP-1901; the potential for EYP-1901 as a sustained delivery treatment for wet age-related macular degeneration and non-proliferative diabetic retinopathy; and our longer term financial and business goals and expectations, are forward-looking statements. Some of the factors that could cause actual results to differ materially from the anticipated results or other expectations expressed, anticipated or implied in our forward-looking statements are risks and uncertainties inherent in our business including, without limitation: the effectiveness and timeliness of clinical trials, and the usefulness of the data; the timeliness of regulatory approvals; the extent to which COVID-19 impacts our business; our ability to achieve profitable operations and access to needed capital; fluctuations in our operating results; our ability to successfully produce sufficient commercial quantities of YUTIQ® and DEXYCU®; the loss of pass-through reimbursement status for DEXYCU as of January 1, 2023; the success of current and future license agreements, including our agreements with Ocumension Therapeutics, Equinox Science and Betta Pharmaceuticals; termination or breach of current license agreements; our dependence on contract research organizations, co-promotion partners, and other outside vendors and service providers; effects of competition and other developments affecting sales of products; market acceptance of products; effects of guidelines, recommendations and studies; protection of intellectual property and avoiding intellectual property infringement; retention of key personnel; product liability; industry consolidation; compliance with environmental laws; manufacturing risks; risks and costs of international business operations; volatility of our stock price; possible dilution; absence of dividends; and other factors described in our filings with the Securities and Exchange Commission. We cannot guarantee that the results and other expectations expressed, anticipated or implied in any forward-looking statement will be realized. A variety of factors, including these risks, could cause our actual results and other expectations to differ materially from the anticipated results or other expectations expressed, anticipated or implied in our forward-looking statements. Should known or unknown risks materialize, or should underlying assumptions prove inaccurate, actual results could differ materially from past results and those anticipated, estimated or projected in the forward-looking statements. You should bear this in mind as you consider any forward-looking statements. Our forward-looking statements speak only as of the dates on which they are made. We do not undertake any obligation to publicly update or revise our forward-looking statements even if experience or future changes makes it clear that any projected results expressed or implied in such statements will not be realized.

COMPANY OVERVIEW

EYP-1901: A potential new paradigm in the treatment of retinal disease

EYP-1901 in phase 2 clinical trials

- Bioerodible Durasert® delivering vorolanib, to the posterior segment via a sustained delivery intravitreal (IVT) insert
  - DAVIO 2 - potential 6-month treatment for wet AMD
  - PAVIA - potential 9-month treatment for non-proliferative diabetic retinopathy (NPDR)

Vorolanib – a new anti-VEGF MOA for ocular disease

- A selective tyrosine kinase inhibitor (TKI) that blocks VEGF receptors intracellularly
- Potentially complementary to anti-VEGF biologics
- Positive ocular safety data through Phase 2 trials
- Potential neuroprotection and anti-fibrosis benefits

Durasert® - proven IVT drug delivery

- Sustained ocular drug delivery
- Constant (zero-order kinetics) stable release of drug
- Safely administered to ~80,000 patient eyes across four FDA approved products

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TECHNOLOGY

DURASERT®

Safe Sustained Intravitreal Drug Delivery

- Used in four of six FDA approved intravitreal sustained delivery products
- Delivered by a single in-office IVT injection
- Continuous, stable release of drug

Non-Erodible Products

- YUTIQ® (EyePoint)
- ILUVIEN® (Alimera)
- RETISERT® (B&L)
- VITRASERT® (B&L)

Bioerodible: EYP-1901

- No polyimide coating
- Initial drug burst from insert surface
- Constant, zero-order kinetic release over months

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WHY VOROLANIB?

Vorolanib binds receptors of all VEGF growth factors

Vorolanib is a selective and patent protected tyrosine kinase inhibitor (TKI)

- Intracellular binding of all vascular endothelial growth factor (VEGF) receptors
- Differentiated mechanism of action versus anti-VEGF biologics that potentially works complementary
- In-vivo studies demonstrate encouraging neuroprotection and anti-fibrosis data
- Phase 1 and Phase 2 clinical trials as an oral therapy showed compelling safety and efficacy data with no ocular toxicity observed[1,2]

1. Jackson et al. JAMA Ophthalmol 2017
2. 2. Cohen MN et al. Br J Ophthalmol. 2021

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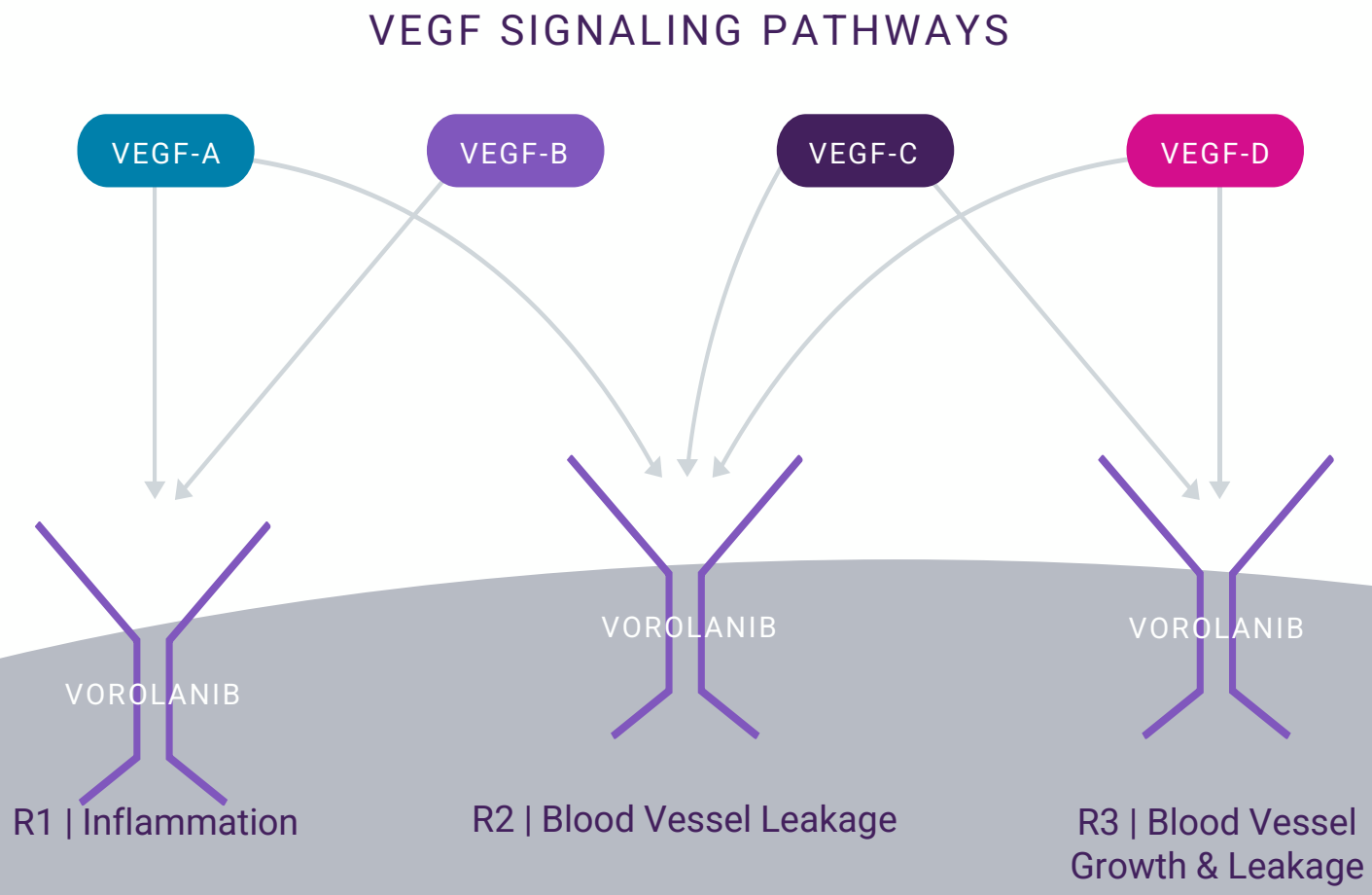
Vorolanib binds receptors of all VEGF growth factors with strong affinity to VEGF receptor 2 - a receptor associated with blood vessel leakage



VOROLANIB INHIBITS VEGFR

- Binds to the intracellular domain of tyrosine kinases
- Targets the angiogenic VEGF receptors R1, R2 and R3 with high potency

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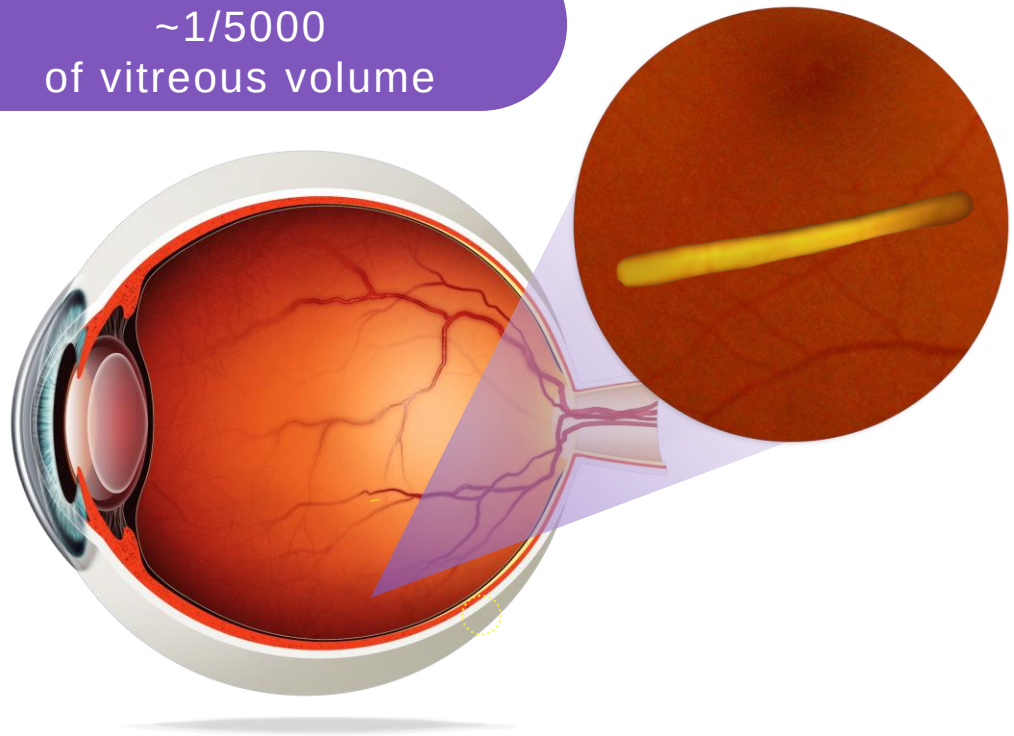
EYP-1901delivers VEGF receptor binding vorolanib in Bioerodible Durasert®

EYP-1901 insert only
~1/5000
of vitreous volume



EYP-1901

- A single IVT injection of up to 3 inserts
- Bioerodible formulation of Durasert
- Initial drug burst from surface of insert to rapidly reach therapeutic levels in ocular tissues
- Zero order kinetics release expected to provide consistent drug levels through treatment course
- Vorolanib binds all VEGFR; blocking all isoforms of VEGF as well as PDGF

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EYP-1901

PHASE 1 DAVIO CLINICAL TRIAL 12 MONTH RESULTS

EyePoint Pharmaceuticals

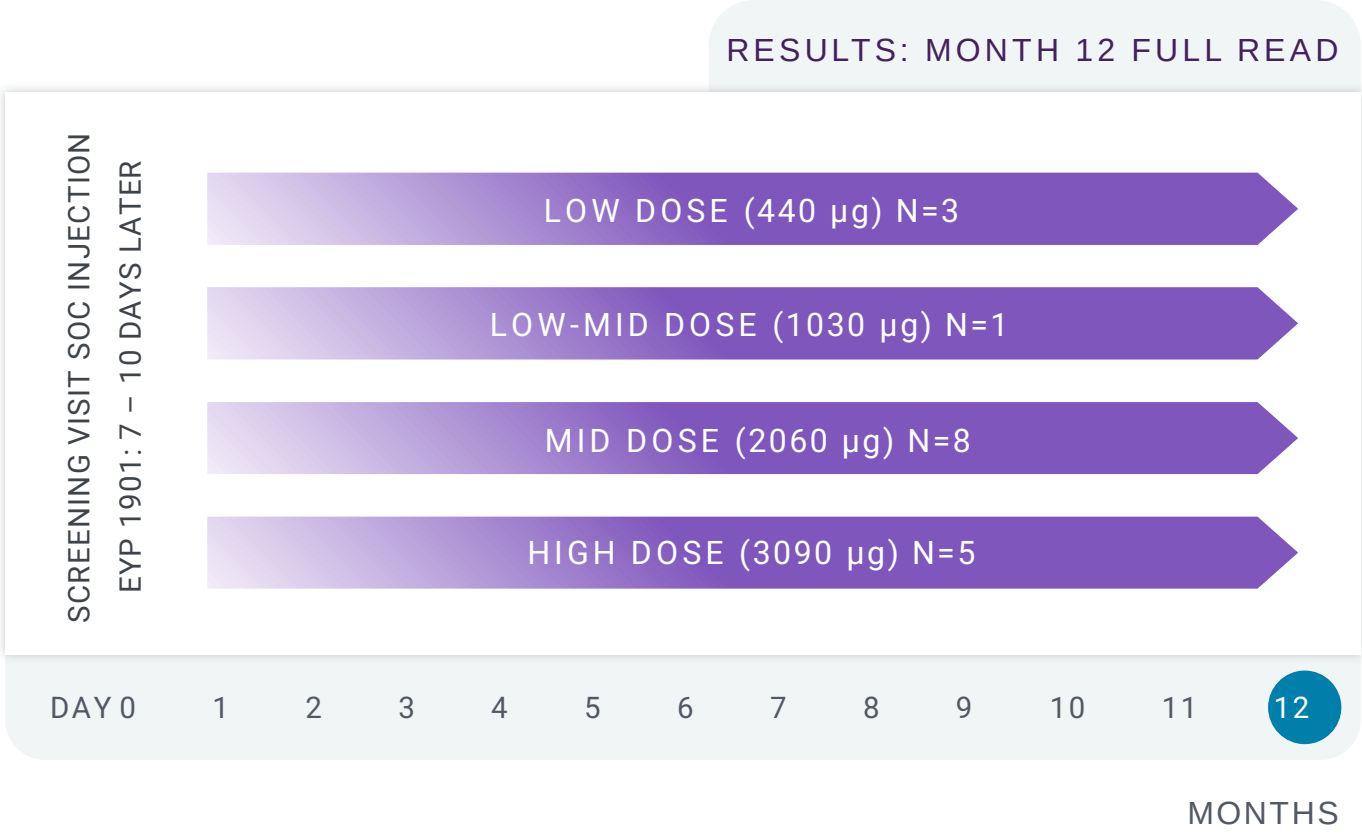
EYP-1901 Phase 1 DAVIO clinical trial enrolled 17 patients with previously treated wet AMD over four different dosages

Primary Endpoint: Safety

- Ocular and non-ocular TEAEs through month-12

Secondary Endpoints

- Supplemental anti-VEGF therapy through 6-months
- Change in BCVA from baseline
- CST as measured by OCT



EyePoint Pharmaceuticals

EYP-1901 Phase 1 DAVIO clinical trial demonstrated favorable overall safety data at 12-months meeting primary endpoint

Ocular AEs of particular interest:

- No vitreous floaters
- No endophthalmitis
- No retinal detachment
- No implant migration in the anterior chamber
- No retinal vasculitis
- No posterior segment inflammation

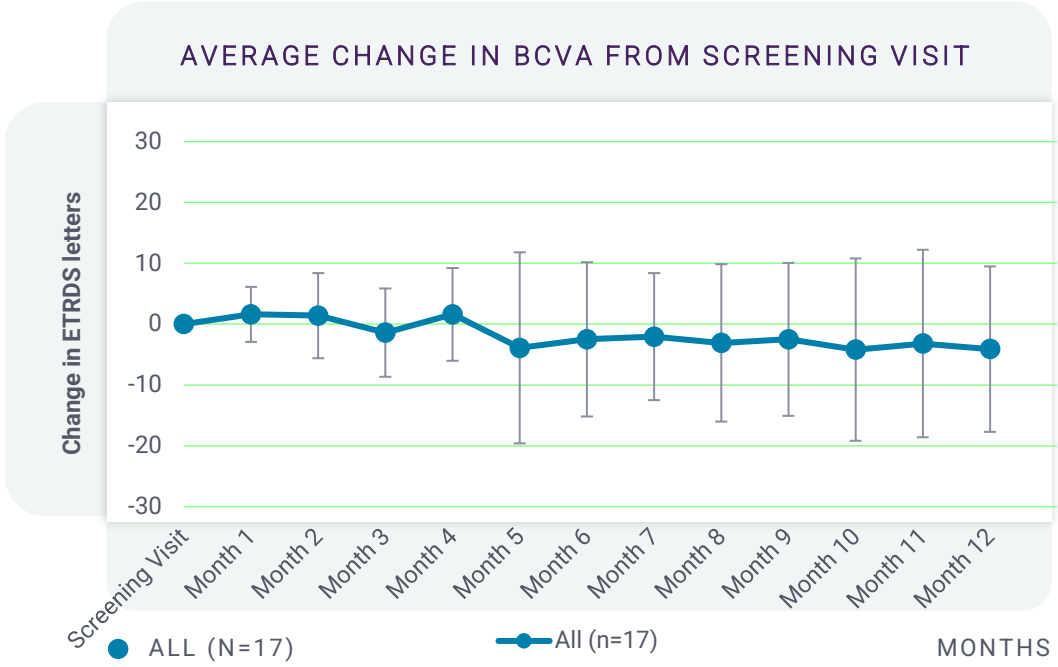
- No ocular serious adverse events (SAEs)
- No drug-related systemic SAEs
- No evidence of vorolanib-related ocular or systemic toxicity
- No Durasert-related toxicity or tolerance issues
- No dose limiting toxicity

Ocular AEs observed:

- One eye: mild asymptomatic anterior chamber cell/flare;
  - ▸ treated with Maxitrol® eyedrops – resolved in 8 days – no sequelae or recurrence
- One eye: asymptomatic vitreous hemorrhage from injection; observed

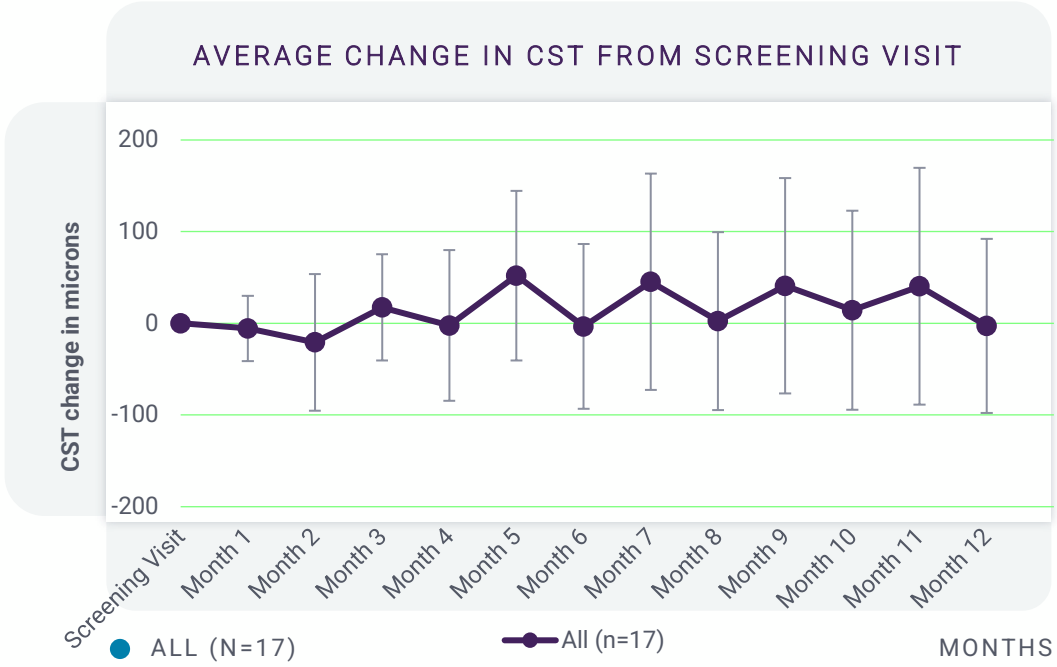
EYP-1901: Visual Acuity (VA) and Central Subfield Thickness (CST) Stable 12 Months after Single Treatment

For all 17 eyes at 12 months | BCVA = -4.1 letters



BCVA: best corrected visual acuity

For all 17 eyes at 12 months | CST on OCT = -2.8 microns

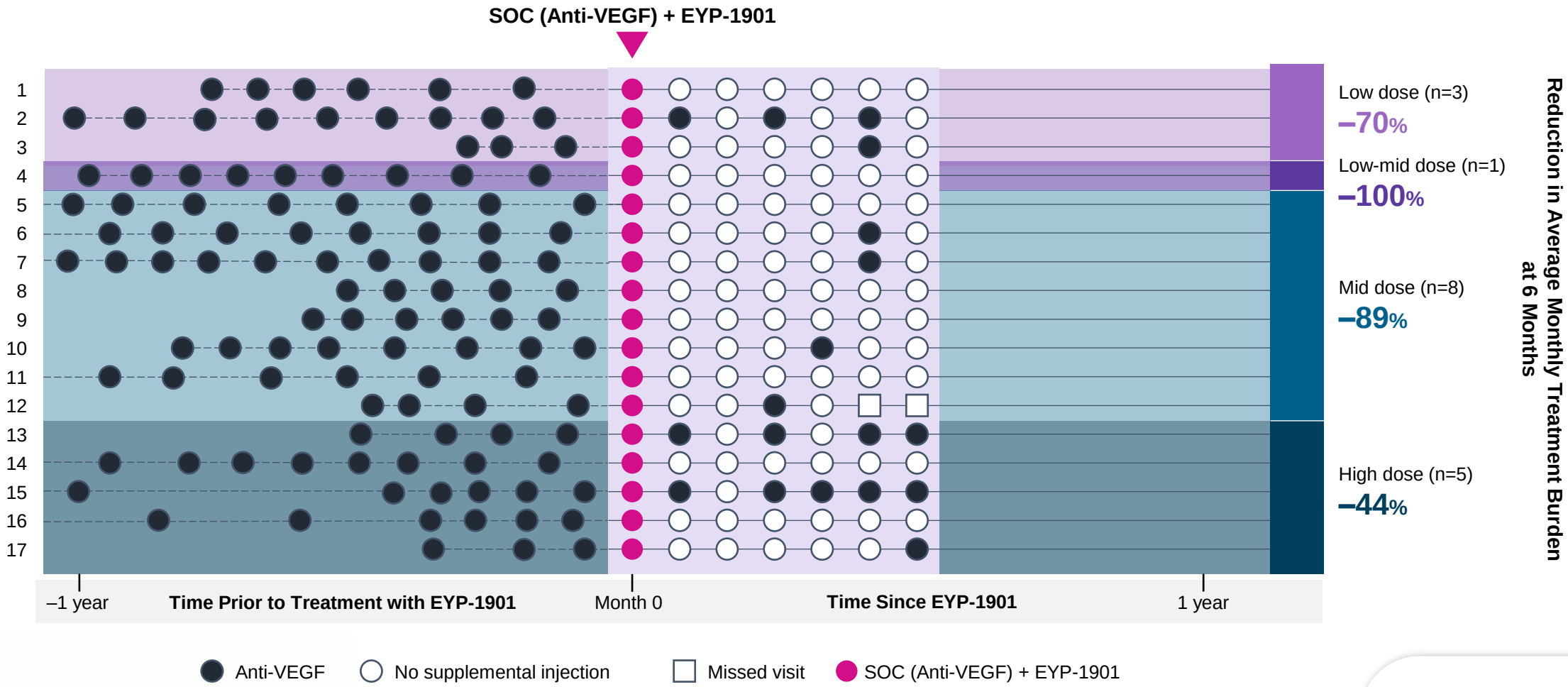


OCT: optical coherence tomography;
CST: central subfield thickness

EyePoint Pharmaceuticals

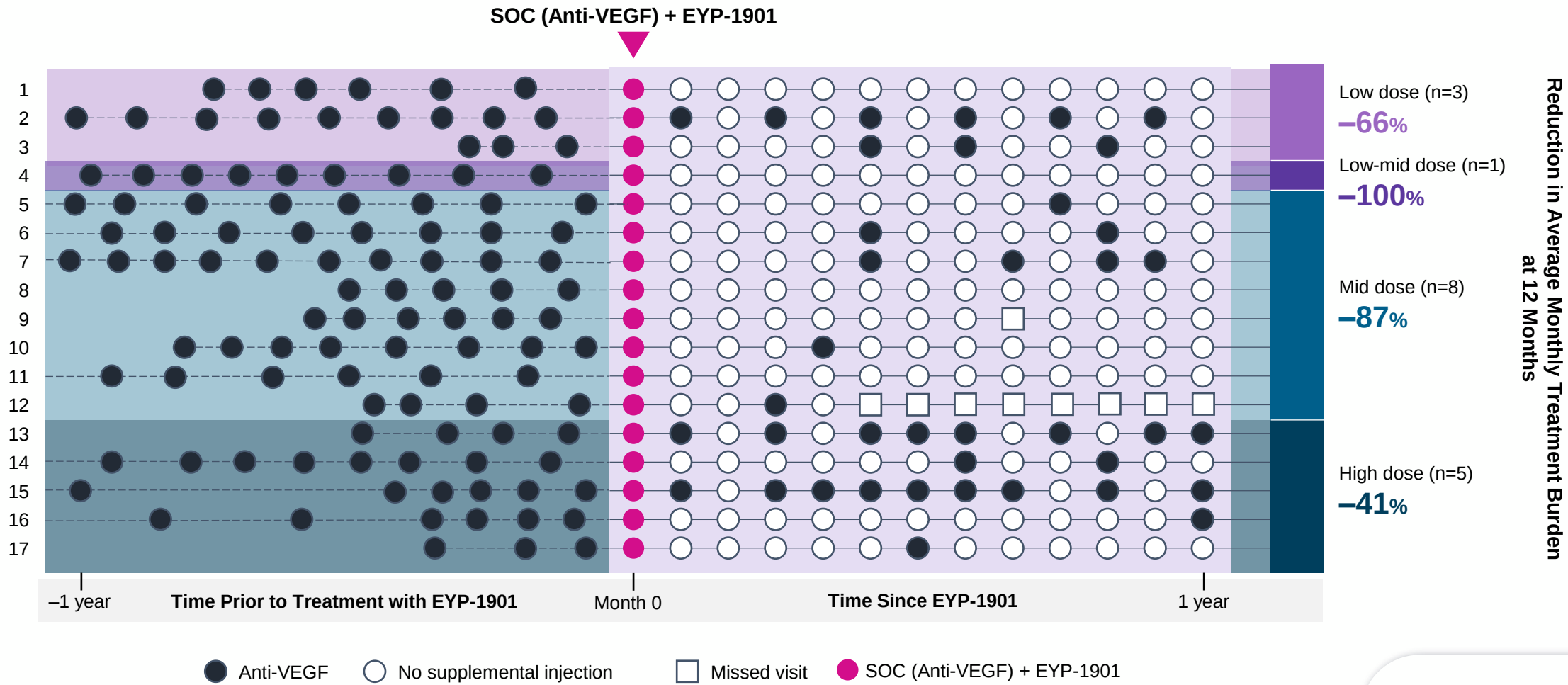
EYP-1901 Phase 1 DAVIO clinical trial demonstrated clinically significant reduction in treatment burden of 75% at 6-months

SOC Anti-VEGF Injections Before and After Treatment



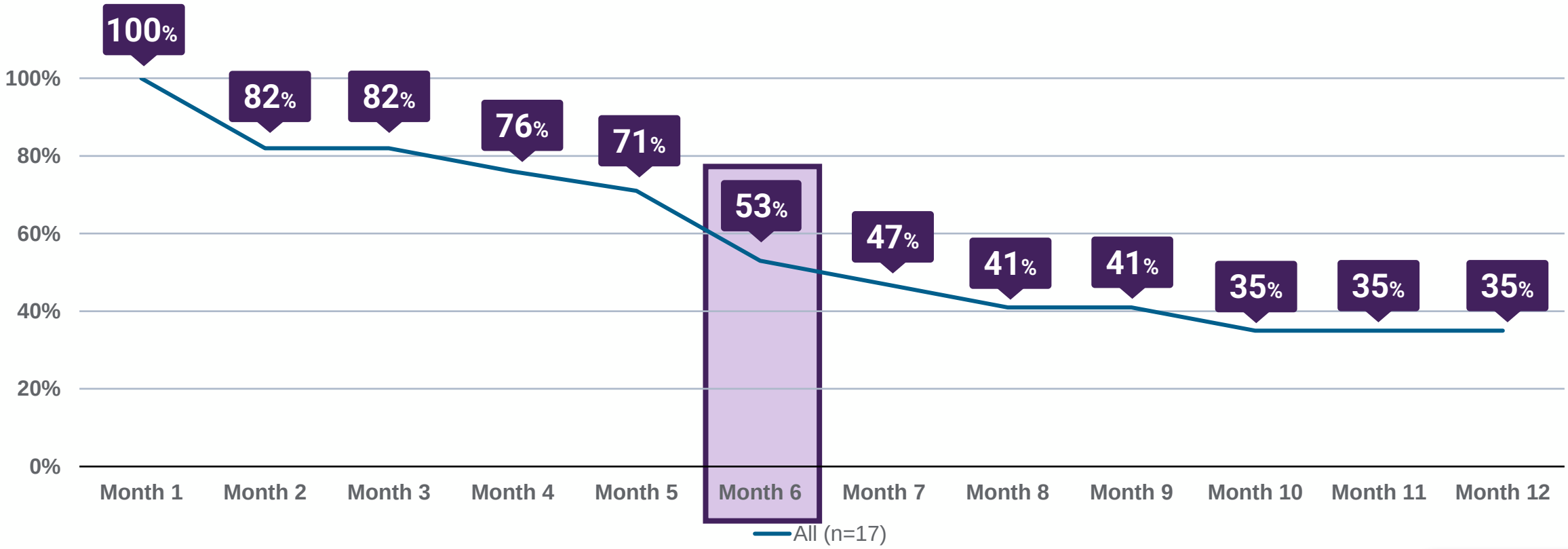
EYP-1901 Phase 1 DAVIO clinical trial continues clinically significant reduction in treatment burden of 73% at 12-months

SOC Anti-VEGF Injections Before and After Treatment



EYP-1901 Phase 1 DAVIO clinical trial demonstrated that 53% of patients did not require supplemental anti-VEGF treatment at 6-months

Median time to supplemental anti-VEGF: 6 months



EyePoint Pharmaceuticals

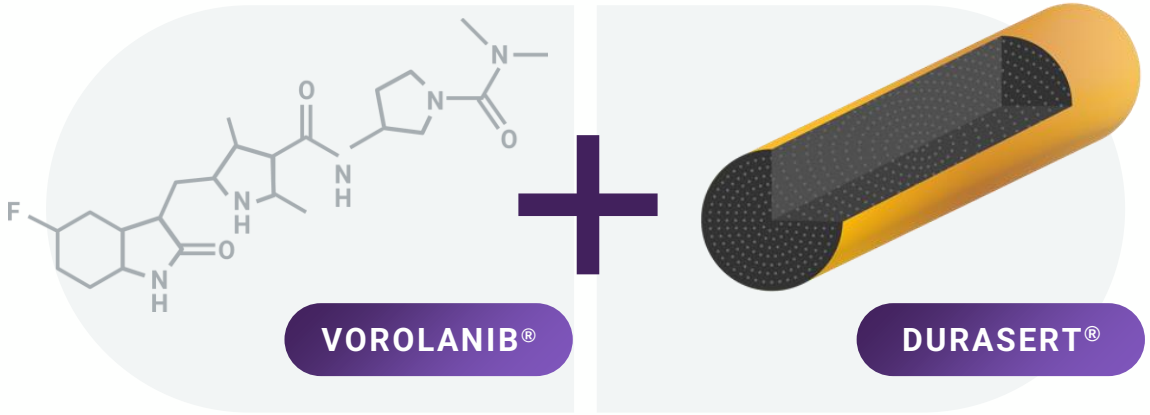
EYP-1901 Phase 1 DAVIO clinical trial met all objectives

FAVORABLE SAFETY PROFILE

- No ocular SAEs reported
- No drug-related systemic SAEs reported
- Ocular AEs – majority are mild and expected

POSITIVE EFFICACY & DURABILITY

- Stabilization of mean BCVA and OCT throughout 6 months was achieved
- 53% supplemental anti-VEGF supplement injection free up to 6-months
- 75% reduction in treatment burden at 6-months



SIX MONTHS MEDIAN TIME
TO SUPPLEMENTAL ANTI-VEGF INJECTION

EYP-1901

DAVIO PHASE 1 CLINICAL TRIAL SUBSET ANALYSIS - SUBJECTS WITH NO EXCESS FLUID AT SCREENING (N=9)

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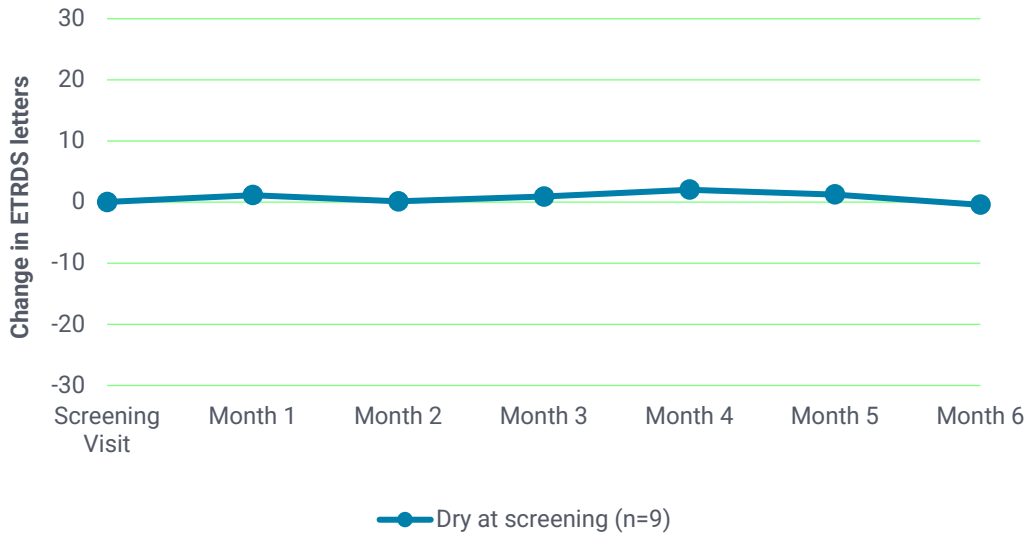
DAVIO Phase 1 clinical trial included 9 of 17 (53%) subjects with no "excess fluid" at screening

For 9 eyes at 6 months with no excess fluid at screening

BCVA = +1.2 letters at 5 months
-0.4 letters at 6 months

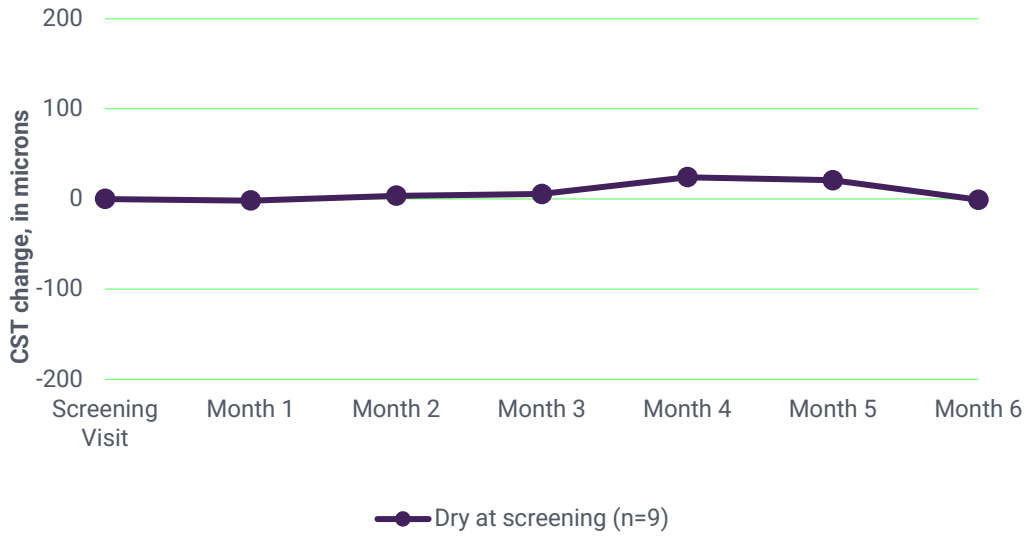
Mean change in BCVA from screening visit (n = 9)



BCVA: best corrected visual acuity

CST on OCT = +20.8 microns at 5 months
-1.0 microns at 6 months

Mean change in CST from screening visit (n = 9)



OCT: optical coherence tomography; CST: central subfield thickness

DAVIO 12-month final data

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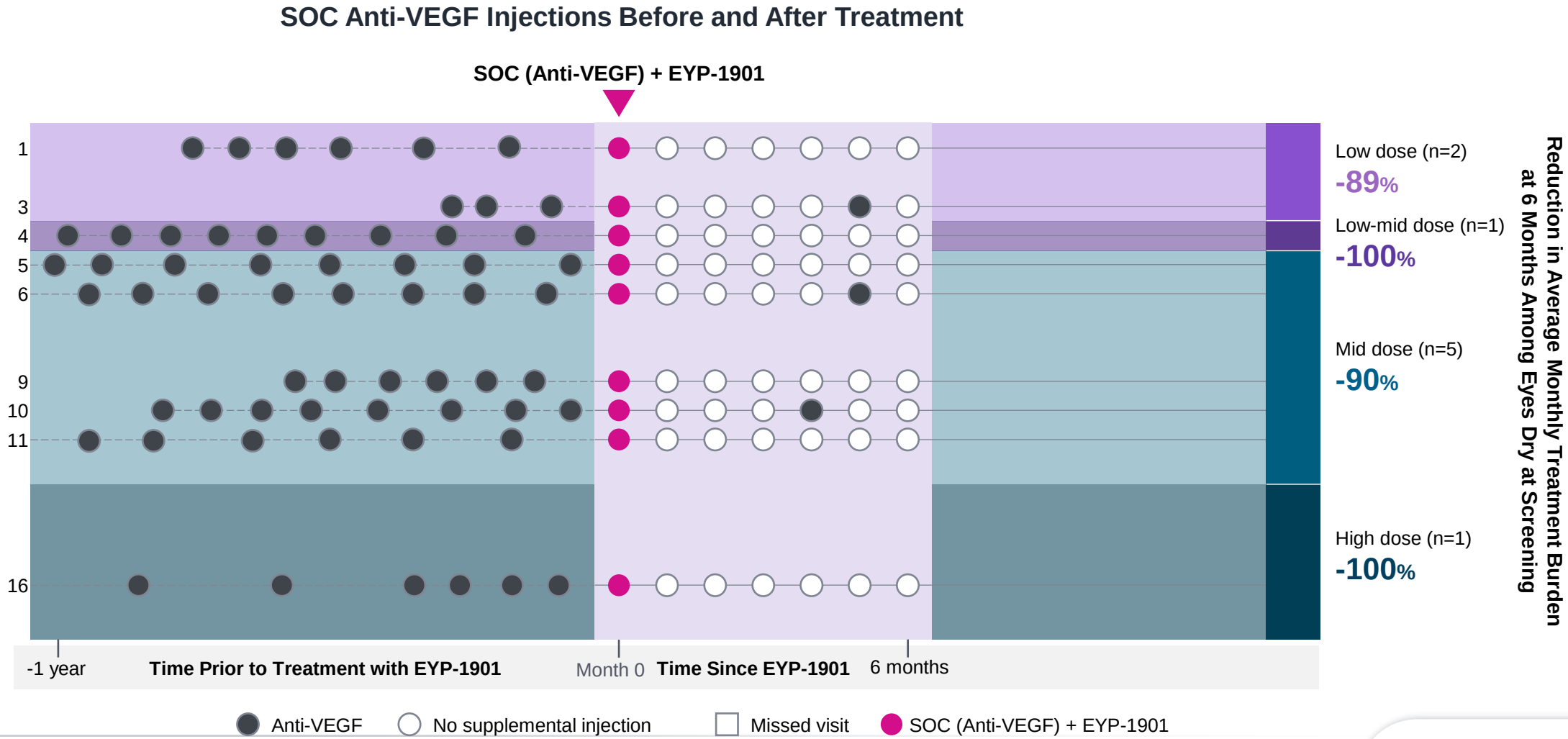
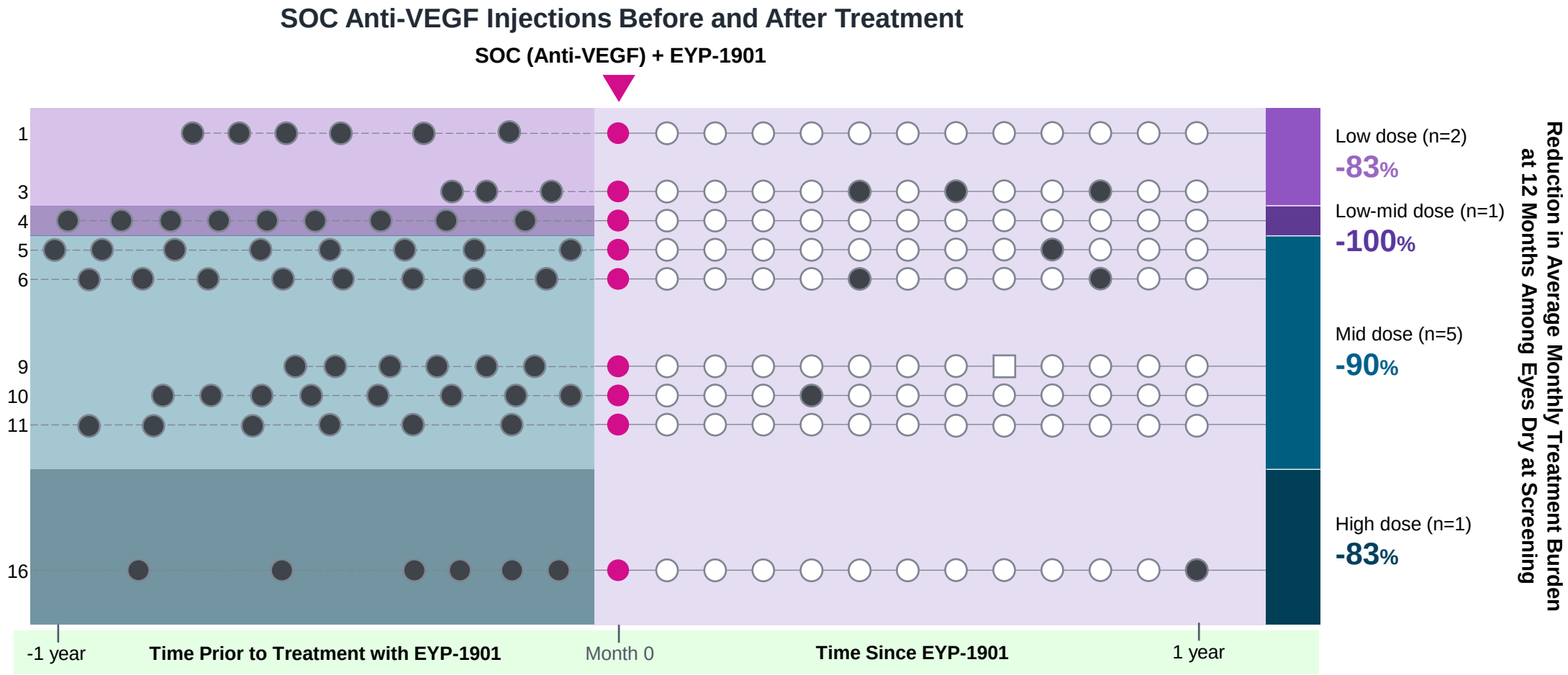
DAVIO Phase 1 clinical trial showed a 92% reduction in treatment burden at 6 months among subjects with no “excess fluid” at screening (n=9)



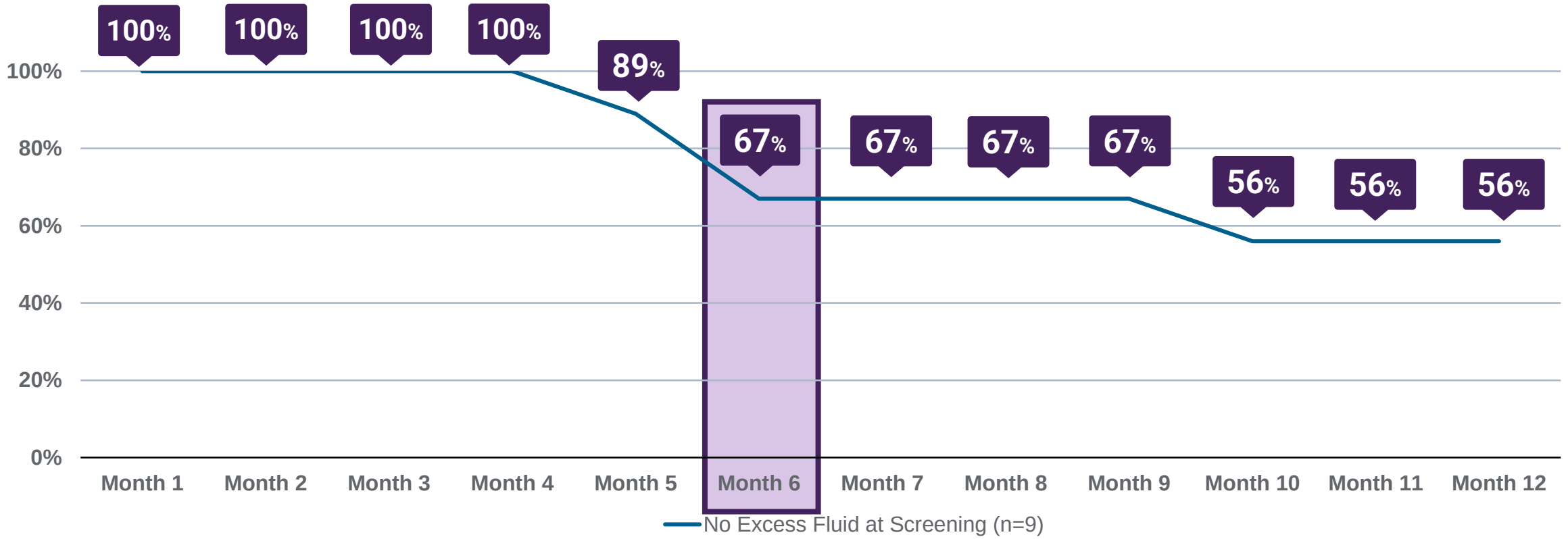
DAVIO Phase 1 clinical trial showed a 89% reduction in treatment burden at 12 months among subjects with no “excess fluid” at screening (n=9)



DAVIO 12-month final data

Subgroup Analysis: Supplemental Injection-Free Rates Up to Each Visit in Subjects with No Excess Fluid at Screening (n=9)

Median time to supplemental anti-VEGF: 12 months



DAVIO 12-month final data

EYP-1901

TREAT TO MAINTAIN

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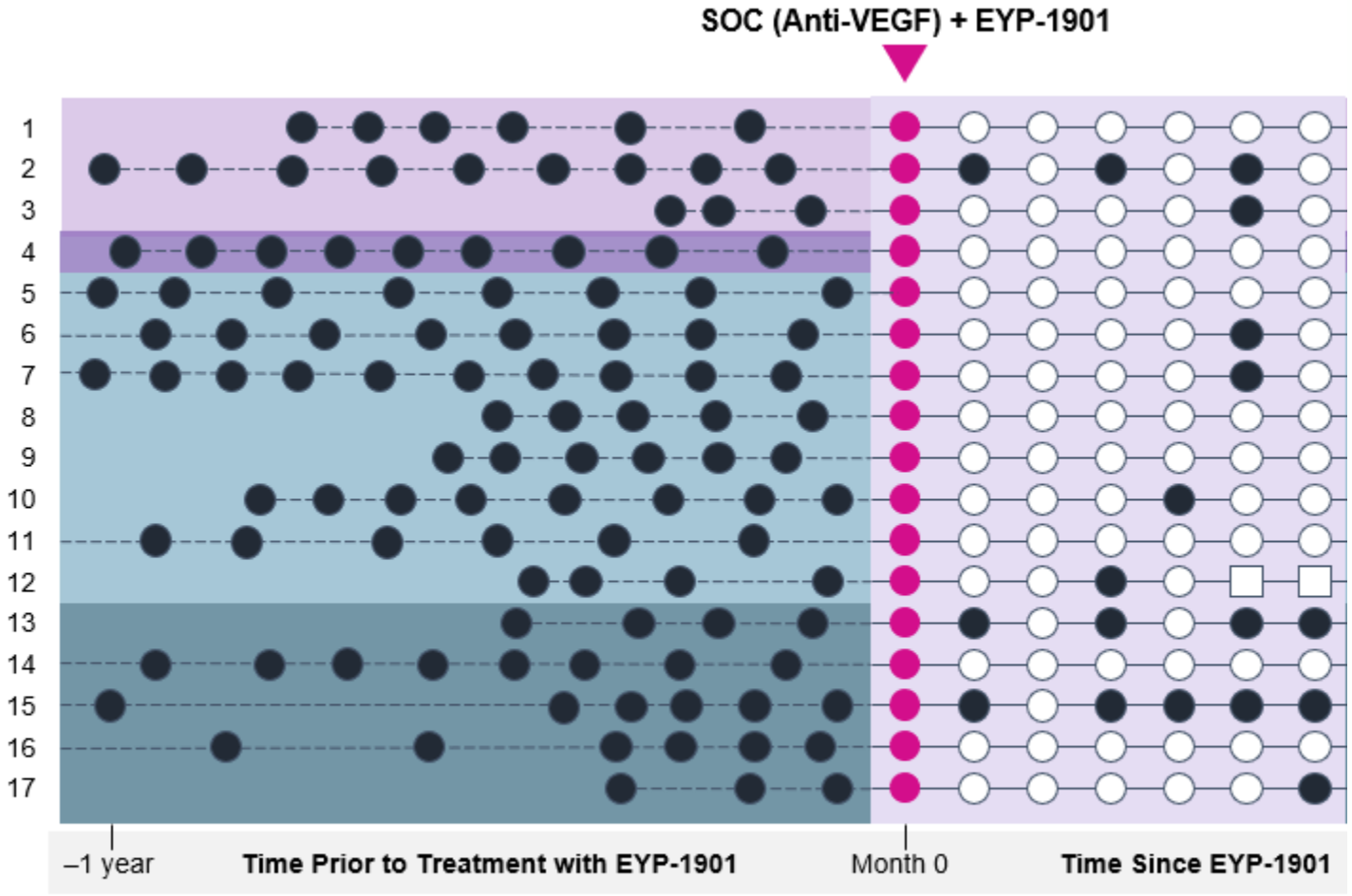
EYP-1901 demonstrated clinically significant reduction in treatment burden of 75% at 6 Months supporting treat to maintain paradigm



TREAT TO MAINTAIN WITH EYP-1901

- About half of eyes in DAVIO could go up to 6 months on EYP-1901 alone
- Another ~30% received only a single supplemental anti-VEGF during 6-months
- About 15 % failed both SoC and 1901 and required multiple supplements

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EYP-1901 advancing as a potential complementary “Treat-to-Maintain” therapy in wet AMD

- *Treat* initially with any current anti-VEGF standard-of-care until VA is maximally improved and retina is as dry as possible (*induction phase*)
- *Maintain* with EYP-1901 every six months, supplementing if needed with current anti-VEGF biologic (*maintenance phase*)
- May work complementary with current large molecule anti-VEGFS with differentiated MOA
- Based on DAVIO outcomes, we believe over half of all wet AMD eyes may be maintained visually and anatomically with EYP-1901 alone
- Another segment may require occasional supplemental anti-VEGF at a much-reduced interval

EYP-1901

WET AMD PHASE 2 CLINICAL TRIAL (DAVIO 2)

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The DAVIO 2 clinical trial in wet AMD is designed to support initiation of Phase 3 clinical trials

- Multi-center randomized Phase 2 clinical trial
- Three arms
  - Arm 1: 3mg EYP-1901
  - Arm 2: 2mg EYP-1901
  - Arm 3: On label aflibercept control
- Up to 150 patients
- Only previously treated wet AMD patients to be enrolled
- Primary outcome is difference in change in BCVA

EYP-1901 DAVIO 2 clinical trial is randomized, double-masked, aflibercept controlled

- REQUIRED AFLIBERCEPT INJECTION VISIT
- VISIT SCHEDULED
- EYP-1901 DOSING

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EYP-1901

NON-PROLIFERATIVE DIABETIC RETINOPATHY - PHASE 2 CLINICAL TRIAL (PAVIA)

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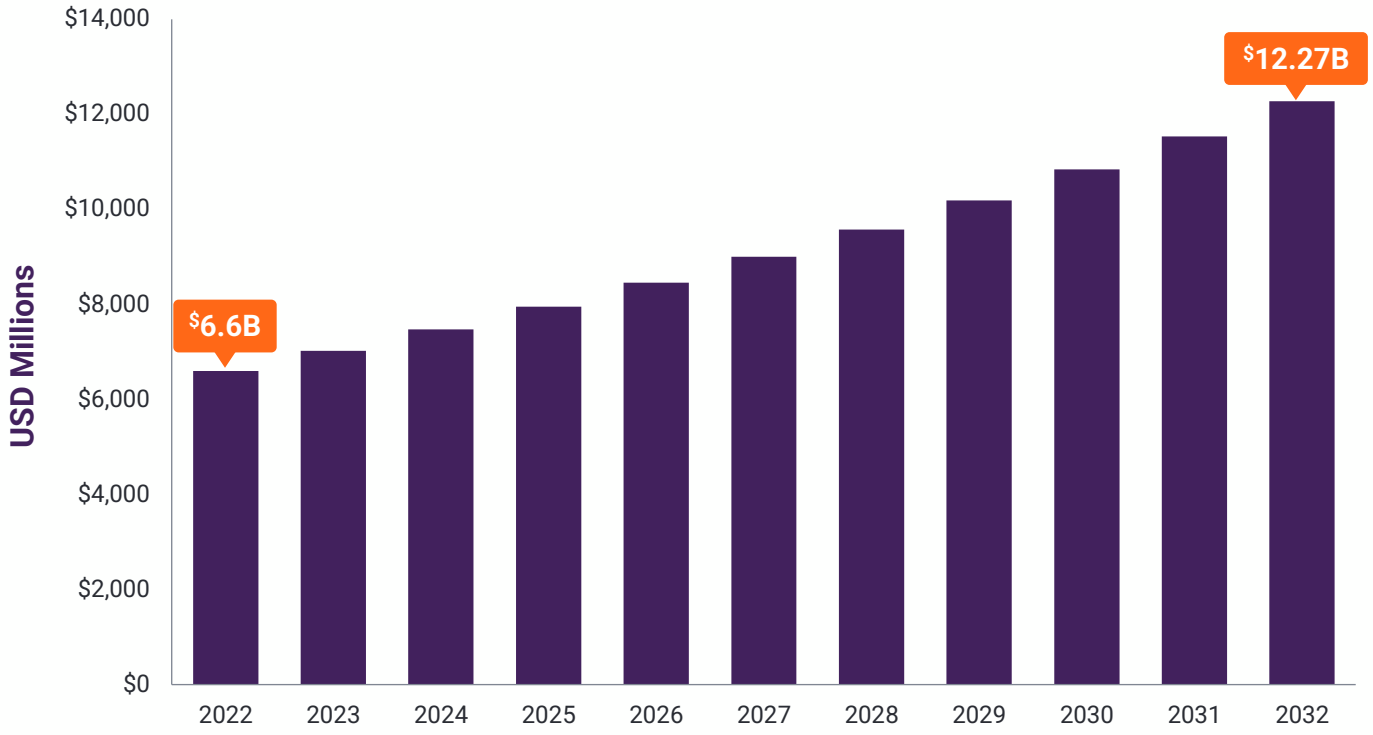
Diabetic Retinopathy Market Opportunity

- Leading cause of blindness
- Current SOC is watchful waiting until vision loss
- Significant potential for 9 month sustained delivery with new MOA using vorolanib

Growing Global DR Market



Analysis includes North America, Europe, Asia Pacific, Latin America, Middle East, and Africa

$12.27 billion

is the estimated market size by 2032, a result of diabetes prevalence and the aging population

Diabetic Retinopathy Market Size Report. 2018-2020 (GrandViewResearch.com), Global Diabetic Retinopathy Market Size Report. Jan. 2022 (MarketDataForecast.com)

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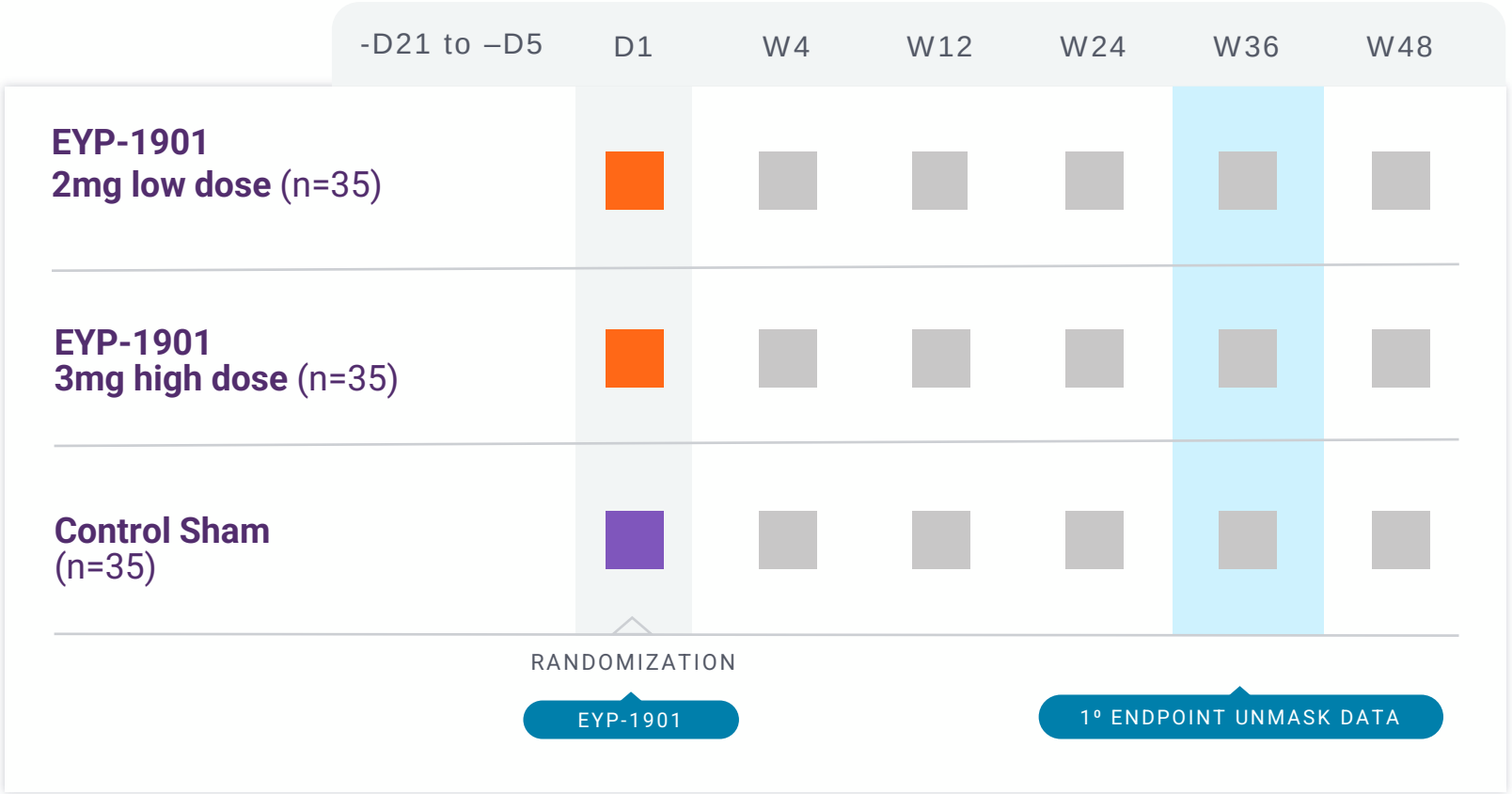
EYP-1901 Phase 2 NPDR PAVIA clinical trial is non-pivotal, randomized double-masked, day-one single injection with sham control evaluating 9 month sustained delivery



EYP-1901 DOSING

VISIT SCHEDULED

SHAM INJECTION

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YUTIQ® –A sustained delivery treatment of posterior segment uveitis using Durasert

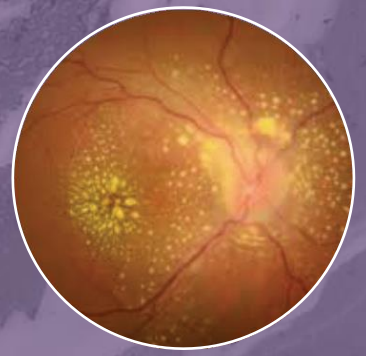
EyePoint Pharmaceuticals

PRODUCTS

0.18 mg
YUTIQ™
(fluocinolone acetonide intravitreal implant) 0.18 mg

CONTINUOUS CALM IN UVEITIS

Approved for the treatment of posterior segment uveitis



- Commercially launched in U.S. in 2019
- Patent protection to August 2027
- Constant and stable release of fluocinolone with Durasert helps prevent uveitis flares for up to 3 years

LICENSE AGREEMENTS

Alimera Sciences, Inc. has rights for non-infectious posterior uveitis in the EMEA

Rights for China, Hong Kong, Taiwan, Macau , Korea and certain SE Asia countries licensed to Ocumension Therapeutics with a royalty on sales payable to EyePoint

PRODUCTS

CONTINUOUS CALM IN UVEITIS

Posterior segment uveitis can permanently damage vision with every flare

60K–100K patients are suffering from posterior segment uveitis in the U.S.

The need

- Flares can cause blindness
- 30,000 Americans become blind each year because of uveitis
- Uveitis lasts a lifetime and often affects people in middle age
- Conventional treatment is burdensome for patients and caregivers

The YUTIQ answer

- 3-year continuous treatment in a single injection that controls flares and preserves eyesight
- Single injection in the physician's office
- Gives patients and physicians the confidence that comes with three years of assured compliance

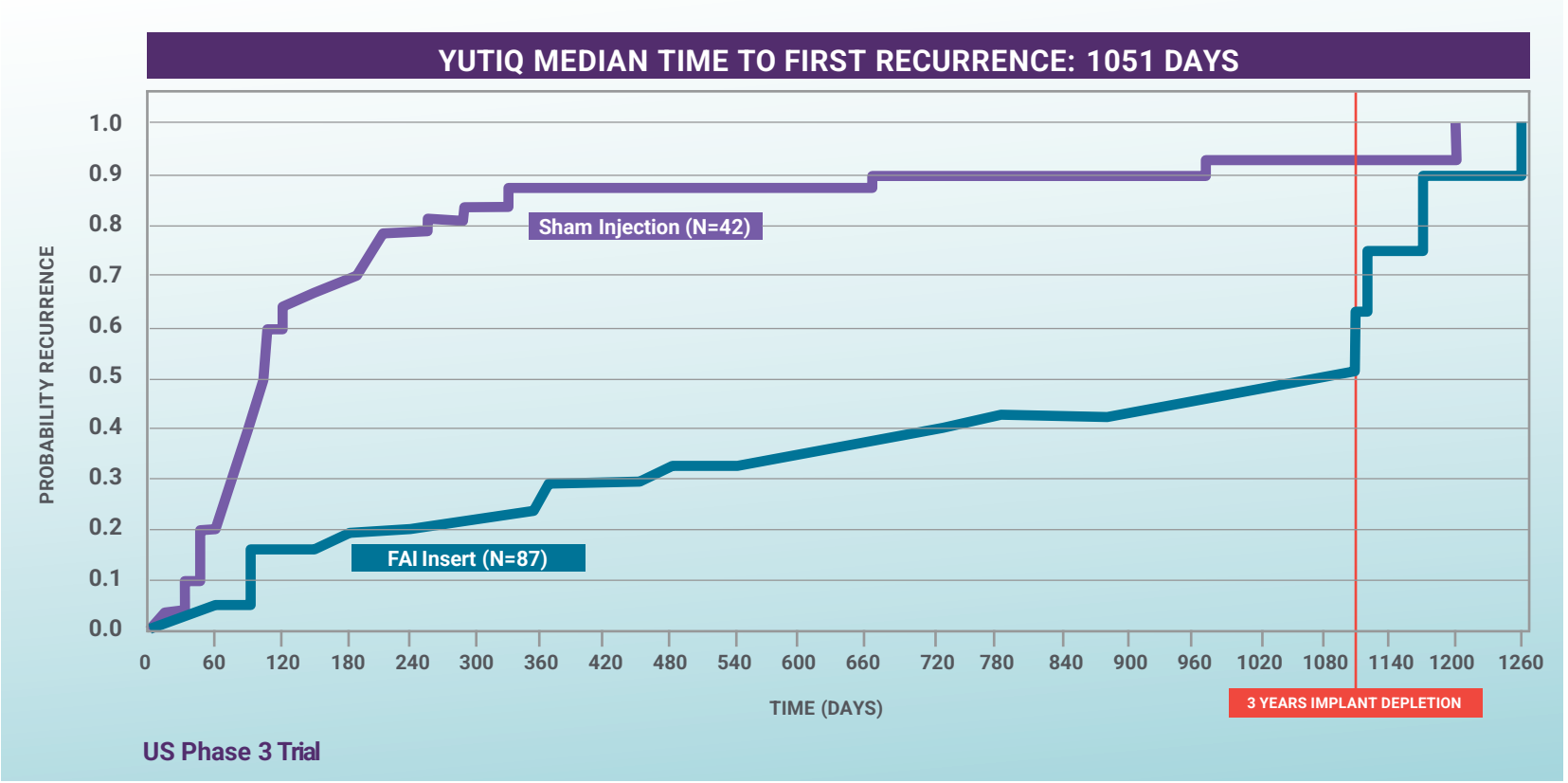
PRODUCTS

0.18 mg YUTIQ™ (fluocinolone acetonide intravitreal implant) 0.18 mg

CONTINUOUS CALM IN UVEITIS

Continuous 3-year delivery limits blindness-causing flares

Time to recurrence of uveitis within 36 months

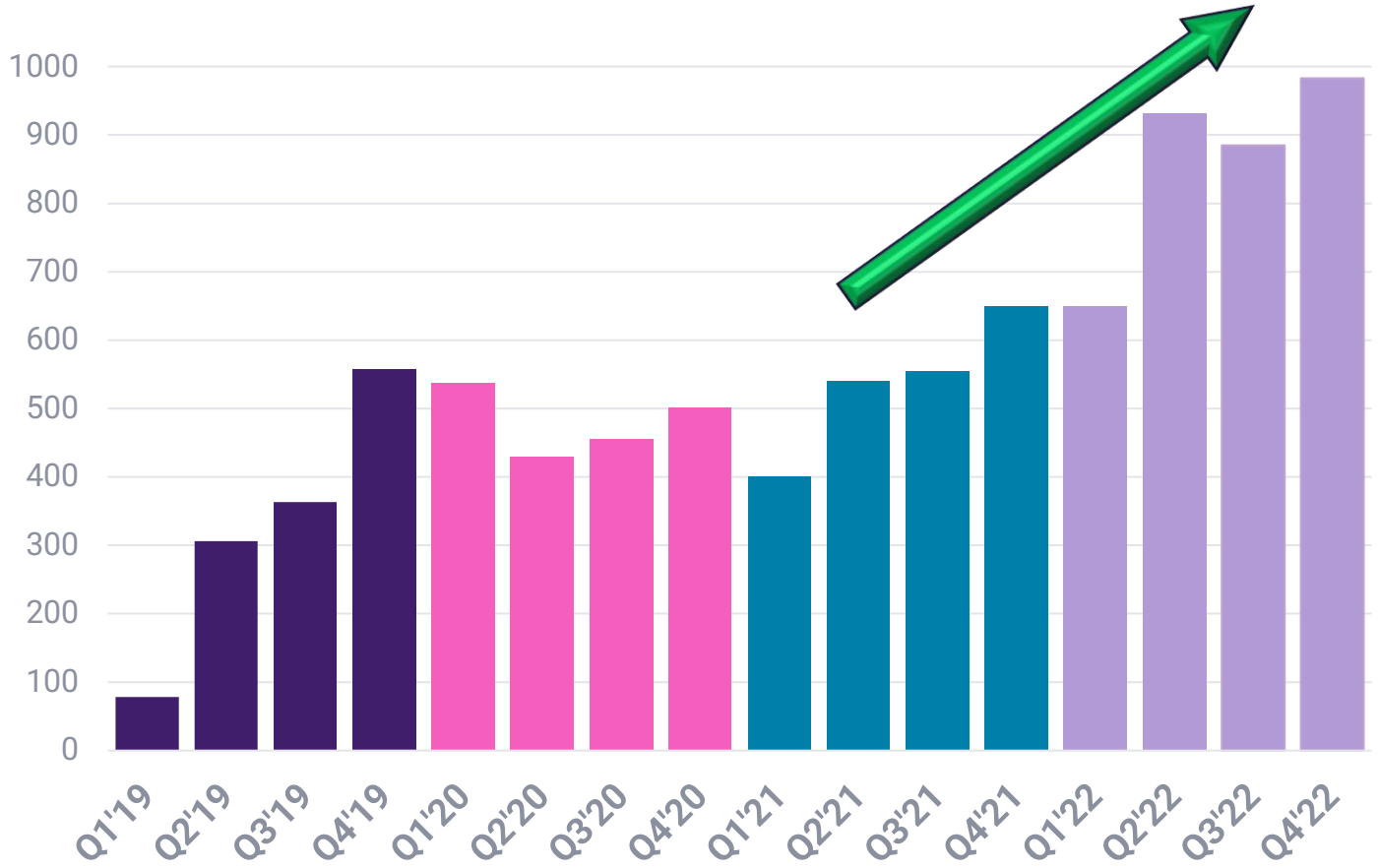


US Phase 3 Trial

Record customer demand for YUTIQ in Q4 2022

PRODUCTS

0.18 mg
YUTIQ™
(fluocinolone acetonide intravitreal implant) 0.18 mg



**Customer demand is defined as units purchased by Surgery Centers or physicians from the specialty distributors.*

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FINANCIAL SUMMARY

Solid cash position and cash runway beyond anticipated 2023 value inflection points

Balance Sheet – December 31, 2022

- $144 million of cash and investments
- $40 million of short and long-term debt
- Cash runway into 2H 2024

Commercial Performance – 2022

- Over $39.5 million of net product revenues
- Commercial franchise break-even

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