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Purpose

• EYP-1901 is a bioerodible, sustained-delivery, intravitreal insert delivering the pan–vascular endothelial growth factor (VEGF) receptor (VEGFR) inhibitor vorolanib to help maintain vision and lower treatment burden in VEGF-driven ocular diseases.1,2

• EYP-1901 preclinical studies of angio genesis inhibition and pharmacokinetics, along with clinical studies in wet age-related macular degeneration (wAMD), are being investigated. This poster reports initial and biopsies findings of those studies.

Methods

Preclinical Studies

Mechanism of Action

• Vorolanib, axitinib, and sunitinib potently inhibited all VEGFRs in vitro at therapeutic drug levels (additional details: ARVO Poster B0296).4,5

Pharmacokinetics

• Vorolanib, axitinib, and sunitinib suppressed angiogenesis in vitro and in vivo (additional details: ARVO Poster B0296).4,5

• Vorolanib, axitinib, and sunitinib potently inhibited all VEGFRs in vitro at therapeutic drug levels (additional details: ARVO Poster B0296).4,5

Clinical Trial

• DAVIO 2 (NCT05381948) is a phase 2, randomized, double-masked, parallel trial of 2 doses of a single EYP-1901 treatment vs aflibercept 2 mg q8W in 161 patients previously treated for wAMD.

• Patients randomized 1:1:1.

• Phase 2 trial of a single EYP-1901 treatment compared to aflibercept 2 mg q8W in previously treated patients with wAMD.

• Patients randomized 1:1:1.

• Most common adverse events (AEs) with EYP-1901 2 mg:

  - Worsening AMD, conjunctival hemorrhage, vitreous floaters.

  - No serious AEs related to EYP-1901 were reported.

  - The mean change in best-corrected visual acuity (BCVA) from baseline was +1.0 letters in the EYP-1901 2 mg arm, +0.9 letters in the EYP-1901 3 mg arm, and +1.3 letters in the aflibercept arm.

• The sawtooth pattern of central subfield thickness (CST) fluctuation often seen with anti-VEGF therapy was not seen with EYP-1901 (Figure 3).

• 65% and 64% of eyes were supplement-free up to 6 months with EYP-1901 2 mg and 3 mg, and treatment burden was reduced by 89% and 85% (additional details: ARVO Poster A0120).

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Results

Mechanism of Action

• Vorolanib, axitinib, and sunitinib potently inhibited all VEGFRs in vitro at therapeutic drug levels (Figure 1A-C),4,5

• TIE2 (needed for vascular stability) was inhibited by axitinib but not vorolanib or sunitinib at therapeutic levels (Figure 1D).4,5

Pharmacokinetics

• Vorolanib concentrations were measured in ocular tissues and plasma at prespecified timepoints over 12 months using a validated liquid chromatography–tandem mass spectrometry biochemical method.6

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• Eyes in all arms could receive supplemental aflibercept injections based on set criteria.

Results (cont.)

Pharmacokinetics

Single-Dose Study in Rabbits (N = 50)

• EYP-1901 showed rapid, steady delivery of vorolanib to target tissues (Figure 2).5

• Plasma exposures were consistently maintained below the IC50. Therefore, no systemic effects are expected.

• Vorolanib inhibited multiple receptor kinases but did not inhibit TIE2 at therapeutic levels.

• Vorolanib concentrations were measured in ocular tissues and plasma at prespecified timepoints over 12 months using a validated liquid chromatography–tandem mass spectrometry biochemical method.6

Conclusions

• Vorolanib inhibited multiple receptor kinases but did not inhibit TIE2 at therapeutic levels.

• EYP-1901 in rabbits provided rapid and steady concentrations of vorolanib above the IC50 in target tissues.

• Vorolanib concentrations were measured in ocular tissues and plasma at prespecified timepoints over 12 months using a validated liquid chromatography–tandem mass spectrometry biochemical method.6

References:

1. Thomas, T.C., et al. (2024). Presented at ARVO 2024 Annual Meeting, May 5–9, 2024; Seattle, WA.

Please visit eyepointpharma.com for more information.

Presented at ARVO 2024 Annual Meeting, May 5–9, 2024. Seattle, WA.

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