



15/30 LCVA letters responder analysis and reduction in retinal ganglion cell loss with Privosegtor in acute optic neuritis: post-hoc analysis of OCT scans from the ACUITY study

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Optic Neuritis Is an Acute Inflammation of the Optic Nerve that Can Lead to Permanent Visual Impairment

Orphan disease^{1,2}

Acute inflammation of the optic nerve impacting retinal ganglion cells and leading to vision loss

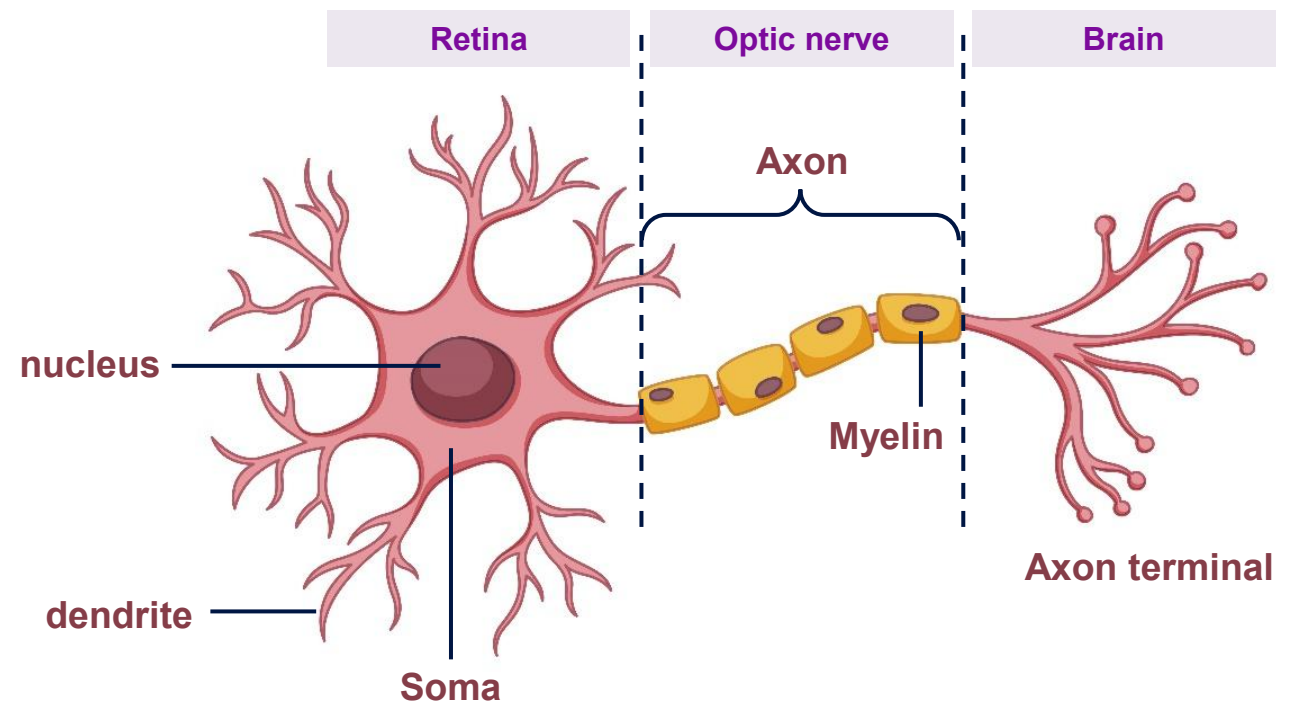
- Causes vision loss and pain, and **can lead to permanent visual impairment and reduced contrast sensitivity**



- Mainly affecting young women** with an average onset at age 32³

Direct link with chronic conditions like **multiple sclerosis (MS)** and other autoimmune diseases

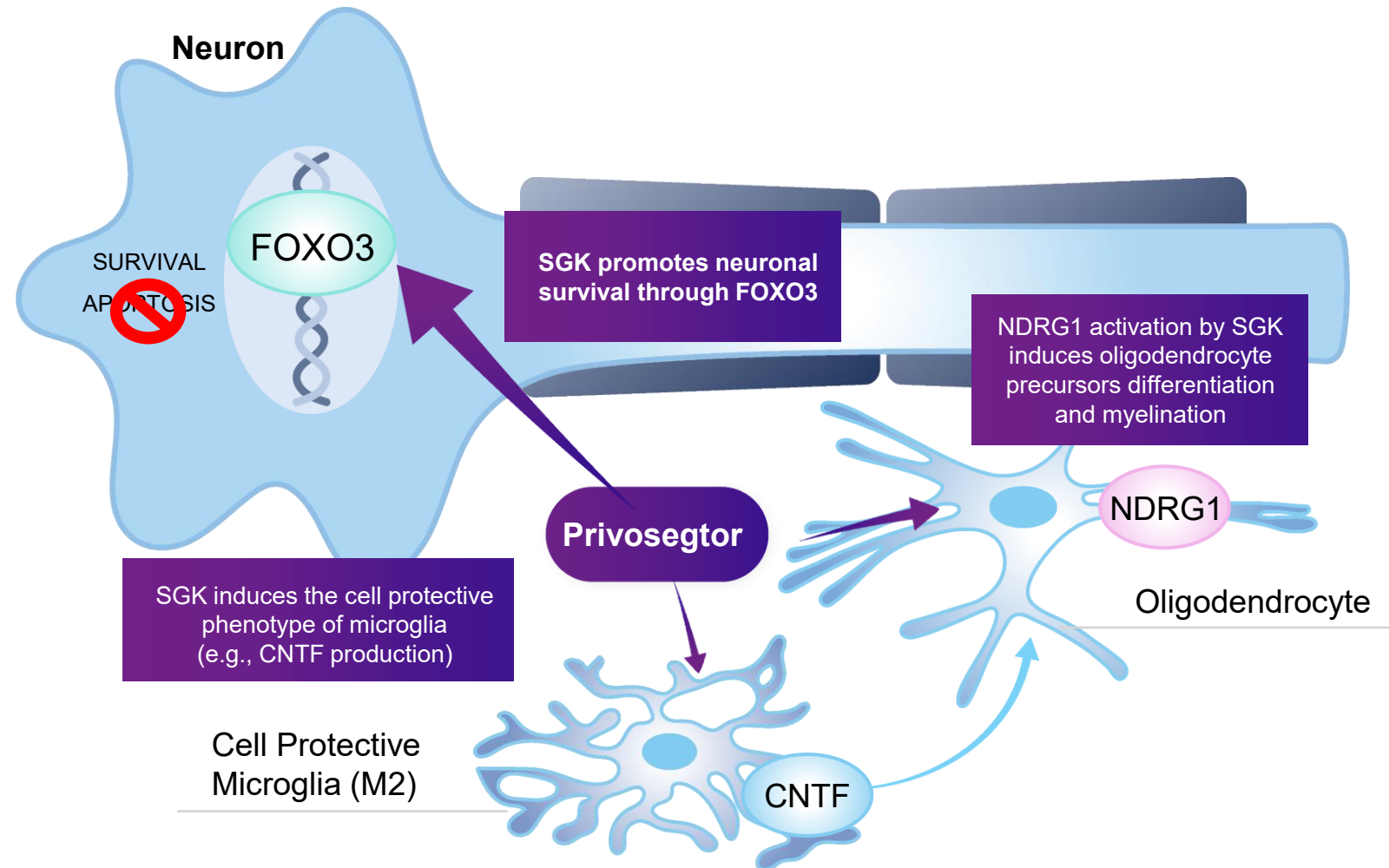
Anatomy of a retinal ganglion cell



1. Martínez-Lapiscina EH, et al. (2014): Is the incidence of optic neuritis rising? Evidence from an epidemiological study in Barcelona (Spain) 2008-2012. *J Neurol.* 2014 Apr; 261(4): 759-767.
2. Weidong Gu et al. (2023) Incidence of Optic Neuritis and the Associated Risk of Multiple Sclerosis for Service Members of U.S. Armed Forces, *Military Medicine*, vol. 188, March/April 2023
3. Guier CP, Kaur K, Stokkermans TJ. Optic Neuritis. January 2025. StatPearls. <https://www.ncbi.nlm.nih.gov/books/NBK557853>

Privosegtor Is a Novel Neuroprotective Candidate with Broad Potential for Neuro-axonal Diseases

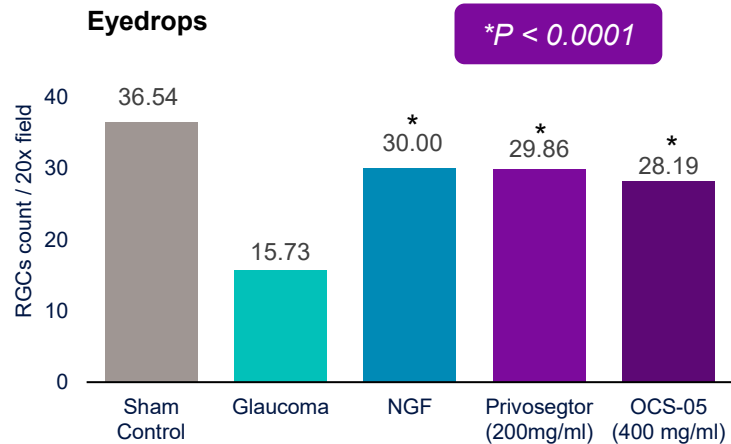
- Peptoid small molecule that **penetrates blood brain and retinal barriers**
- **Selected by high-throughput screening (HTS) for neuroprotective properties**, confirmed in vivo in glaucoma, MS, and optic neuritis models
- It activates SGK and triggers **multiple beneficial effects on apoptosis, oxidation, and inflammation**
- Received **Breakthrough Therapy Designation** for Optic Neuritis



Preclinical Data Showed Neuroprotection Benefits with Neurons and Axons Preservation/Survival

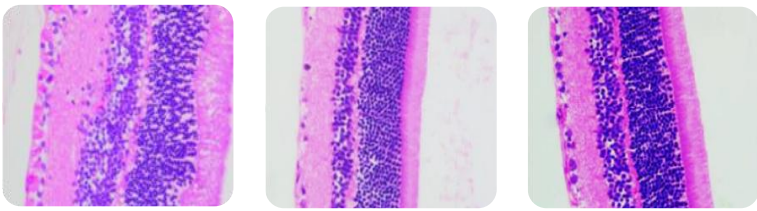
Prevention of RGC Damage^{1,2,3}

H&E for RGC density at week 6 in high-pressure glaucoma rat model^{1,3}



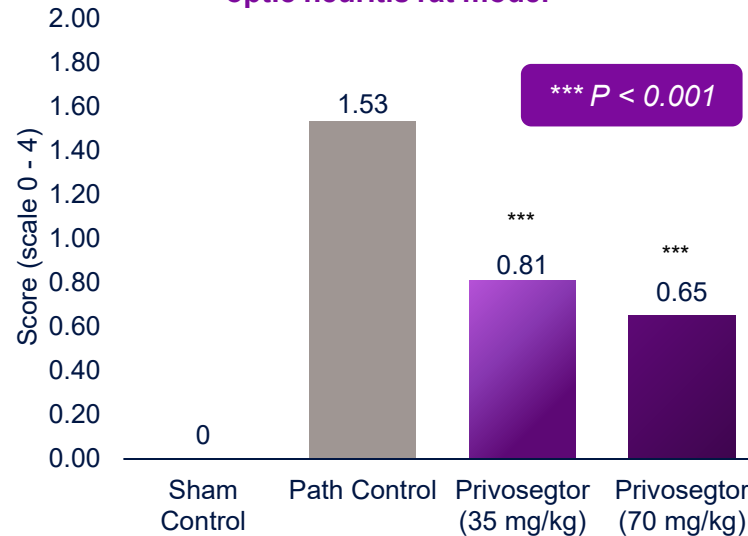
Visual of RGC Protection after 5-days of treatment in optic neuritis rat model^{1,2}

Sham control Placebo Privosegtor - 70 mg/kg



Reduction of Optic Nerve Axonal Loss^{1,2}

Optic nerve axonal loss after 5-days of treatment in optic neuritis rat model^{1,2}

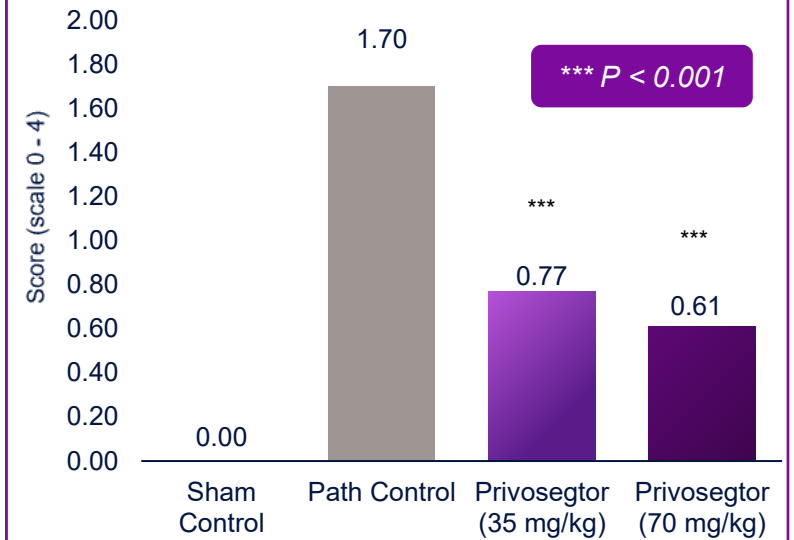


Sham control Placebo Privosegtor - 70 mg/kg

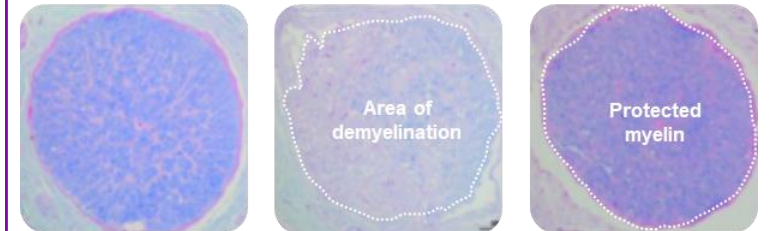


Reduction Optic Nerve Demyelination^{1,2}

Optic nerve demyelination after 5-days of treatment in optic neuritis rat model^{1,2}



Sham control Placebo Privosegtor - 70 mg/kg



H&E: hematoxylin and eosin staining; RGC: retinal ganglion cell.

1. Villoslada P, et al. *Neurotherapeutics*. 2019;16(3):808-827
2. Lysolecithin induced demyelinating model in rat (model of acute optic neuritis)- Assessment after 5-days of treatment
3. High pressure Glaucoma rat model of neurodegeneration without inflammation

Phase 2 ACUIITY Trial in Optic Neuritis, a Proof-of-concept for Neuroprotection

Study Design

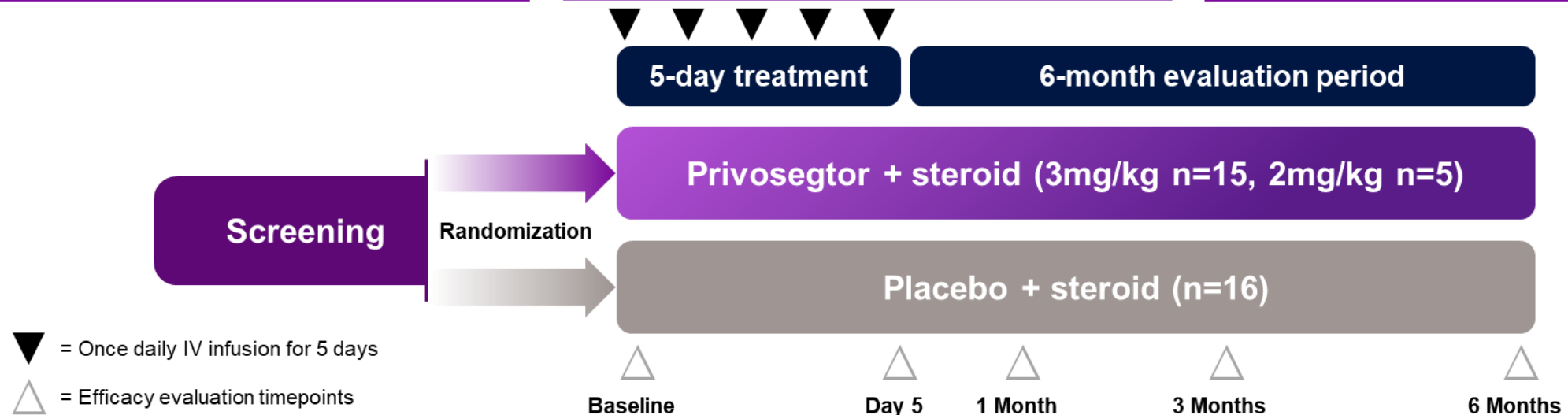
- Randomized, double-masked, placebo-controlled study
- Multi-center, 6-month trial with 36 patients randomized (mITT: 33)
- Once-daily IV infusion of Privosegtor + steroid vs. placebo + steroid for 5 consecutive days

Key endpoints

- Primary endpoint: Safety
- Secondary endpoints:
- Change in Ganglion Cell and Inner Plexiform Layer (GCIPL) thickness as assessed by OCT
 - Change in Retinal Nerve Fiber Layer (RNFL) thickness as assessed by OCT
 - Change in visual function (LCVA)

Study Population

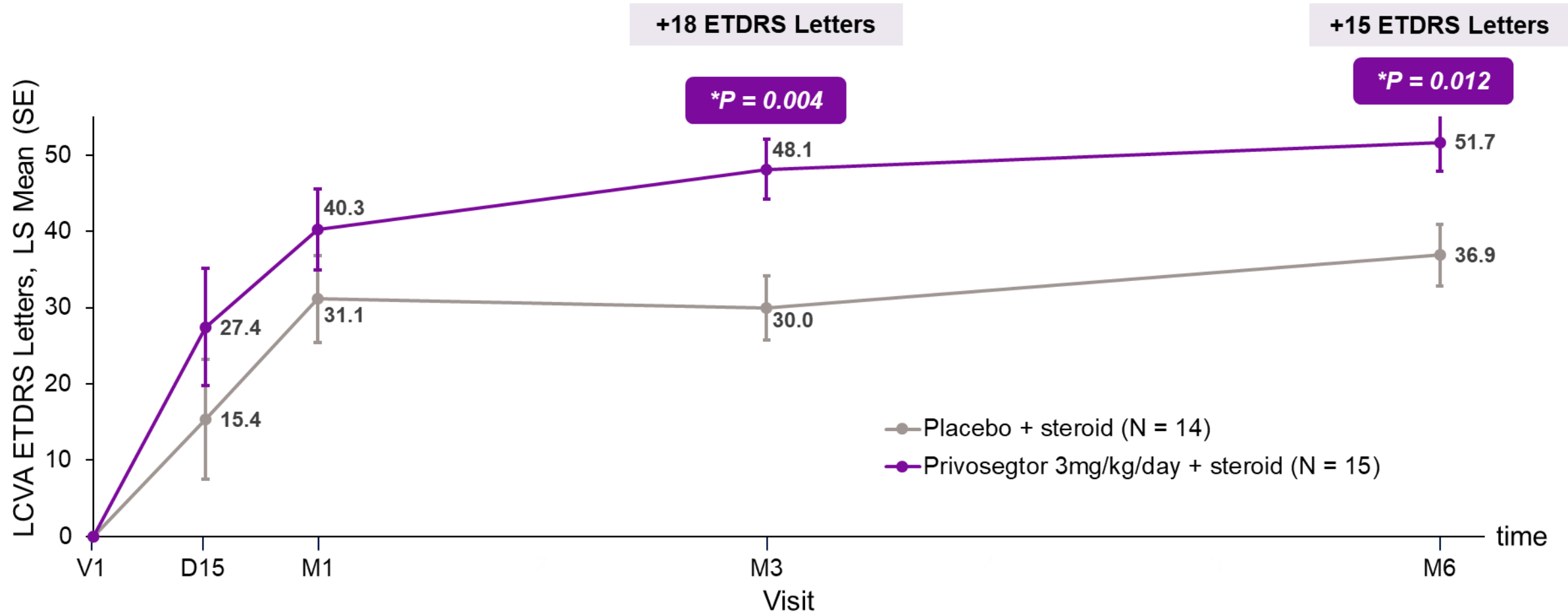
- Patients diagnosed with a unilateral acute optic neuritis
- Onset of visual loss symptoms in the last 12 days before randomization



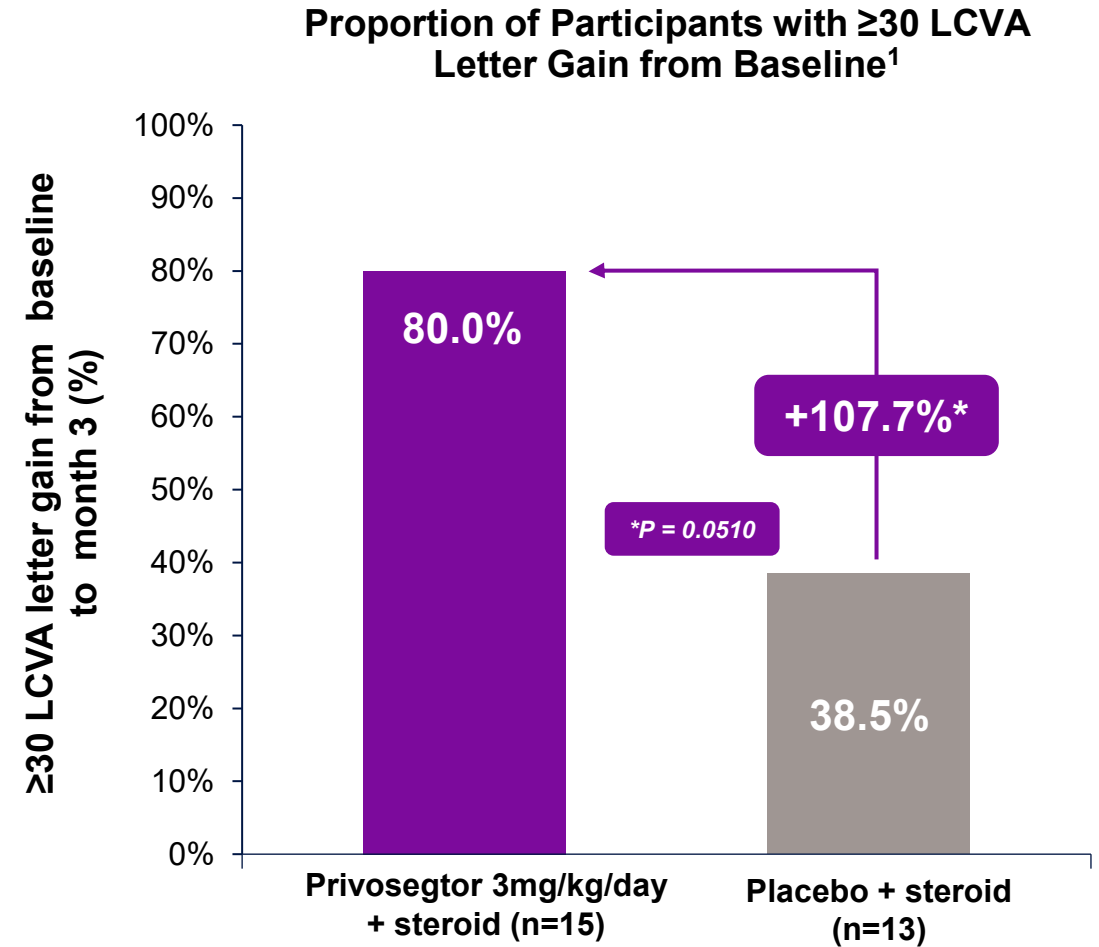
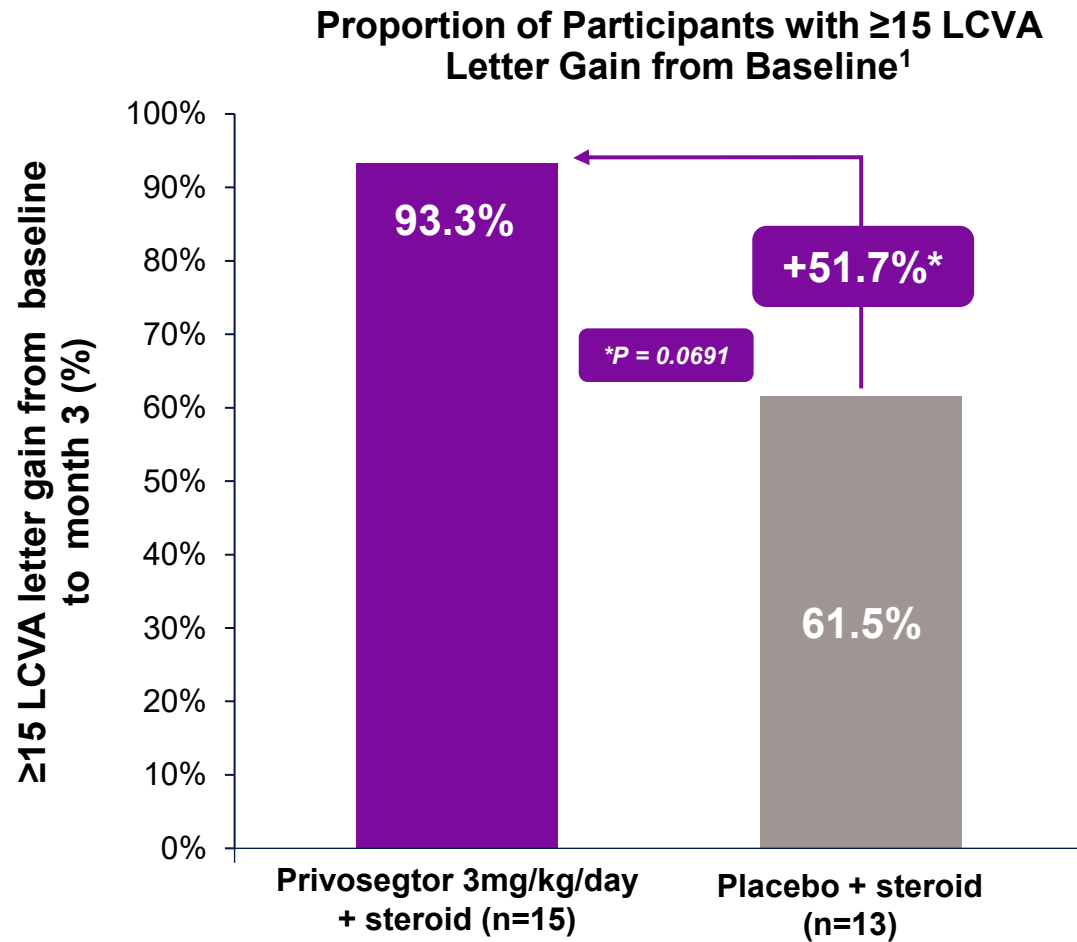
Patient Demographics and Baseline Characteristics

	Privoseptor + steroid 3 mg/kg/day (N = 15)	Placebo + steroid (N = 14)
Age, mean (SD), years	33.7 (9.8)	32.7 (10.3)
Female, n (%)	9 (60.0)	10 (71.4)
GCIPL thickness, mean (SD), μm	89.3 (8.3)	84.3 (13.8)
RNFL thickness, mean (SD), μm	104.6 (13.1)	115.5 (54.1)
HCVA, mean (SD), ETDRS	54.1 (34.5)	42.6 (34.5)
LCVA, mean (SD), ETDRS	19.4 (22.3)	17.8 (24.3)
Visual Field Mean Deviation, mean (SD), dB	-14.1 (11.9)	-14.5 (12.5)
Time since first visual loss symptoms at date of first dose, mean (SD), days	9.5 (2.7)	9.6 (2.5)
Multiple sclerosis at baseline, n (%)	10 (66.7)	9 (64.3)
Disease Modifying Therapies n (%)	10 (66.7)	9 (64.3)

Patients in the Privosegtor 3mg/kg/day Arm Achieved Clinically Meaningful Improvement in Visual Function (2.5% LCVA ETDRS Letters)



More Patients Achieved ≥ 15 and ≥ 30 ETDRS LCVA Letter Improvement with Privosegtor 3 mg/kg/day vs Placebo at Month 3 (Post Hoc Analysis)



ETDRS (Early Treatment Diabetic Retinopathy Study); LCVA, low contrast visual acuity; mITT population (affected eye); 2.5% ETDRS LCVA in the affected eye

*Relative Difference

1. Data on file

Safety Profile Reported in ACUITY Phase 2 Trial Showed no AEs Leading to Drug Withdrawal or Study Discontinuation

- No AEs leading to drug withdrawal or study discontinuation
- No drug-related serious adverse events (SAEs)

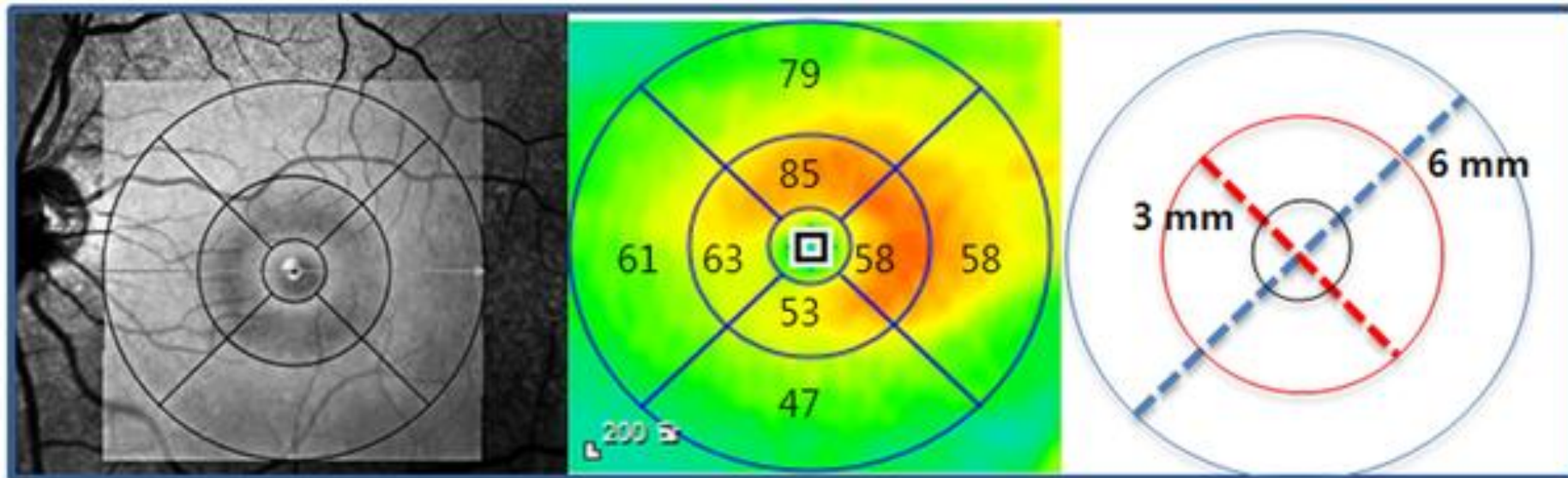
Event, n (%)	Privosegtor + steroid			Placebo + steroid (N = 14)
	2 mg/kg/day (N = 4)	3 mg/kg/day (N = 15)	Pooled (N = 19)	
At least one TEAE <i>Related to study treatment</i>	4 (100.0%) 4 (100.0%)	12 (80.0%) 6 (40.0%)	16 (84.2%) 10 (52.6%)	14 (100.0%) 6 (42.9%)
At least one grade ≥2 TEAE <i>Related to study drug</i>	2 (50.0%) 0	9 (60.0%) 2 (13.3%)	11 (57.9%) 2 (10.5%)	6 (42.9%) 0
At least one serious TEAE <i>Related to study drug</i>	0 0	1 (6.7%) 0	1 (5.3%) 0	1 (7.1%) 0
At least one SAE leading to death	0	0	0	0
At least one TEAE leading to a dose reduction	0	0	0	0
At least one TEAE leading to a dose interruption	0	0	0	0
At least one TEAE leading to a drug withdrawn	0	0	0	0
At least one TEAE leading to premature discontinuation of the study	0	0	0	0

SAE, serious adverse event; TEAE, treatment emergent adverse event.

Two (2) unrelated SAEs: Hospitalization due to MS relapse (Privosegtor (OCS-05 + steroid) and due to myelitis (placebo + steroid)

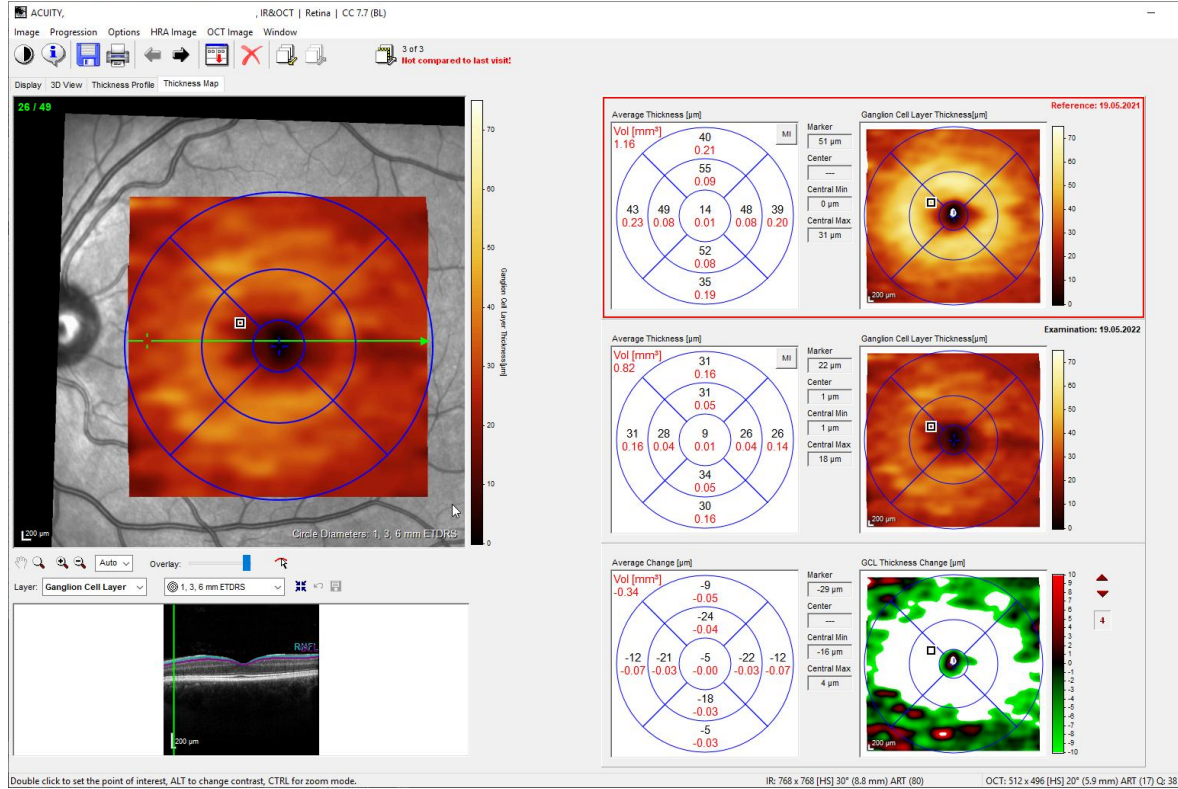
ACUITY Post-hoc Analysis: OCT Scans Methods

- A macular volume scan was performed and GCIPL thickness was calculated within the 6 mm ETDRS grid
- Mean GCIPL thickness was calculated for:
 - **Inner ring:** the 3 mm circle excluding the 1 mm central area for each time point
 - **Outer ring:** the 6 mm circle excluding the inner 3 mm circle
 - **Inner and outer ring:** the 6 mm circle excluding the 1 mm central area

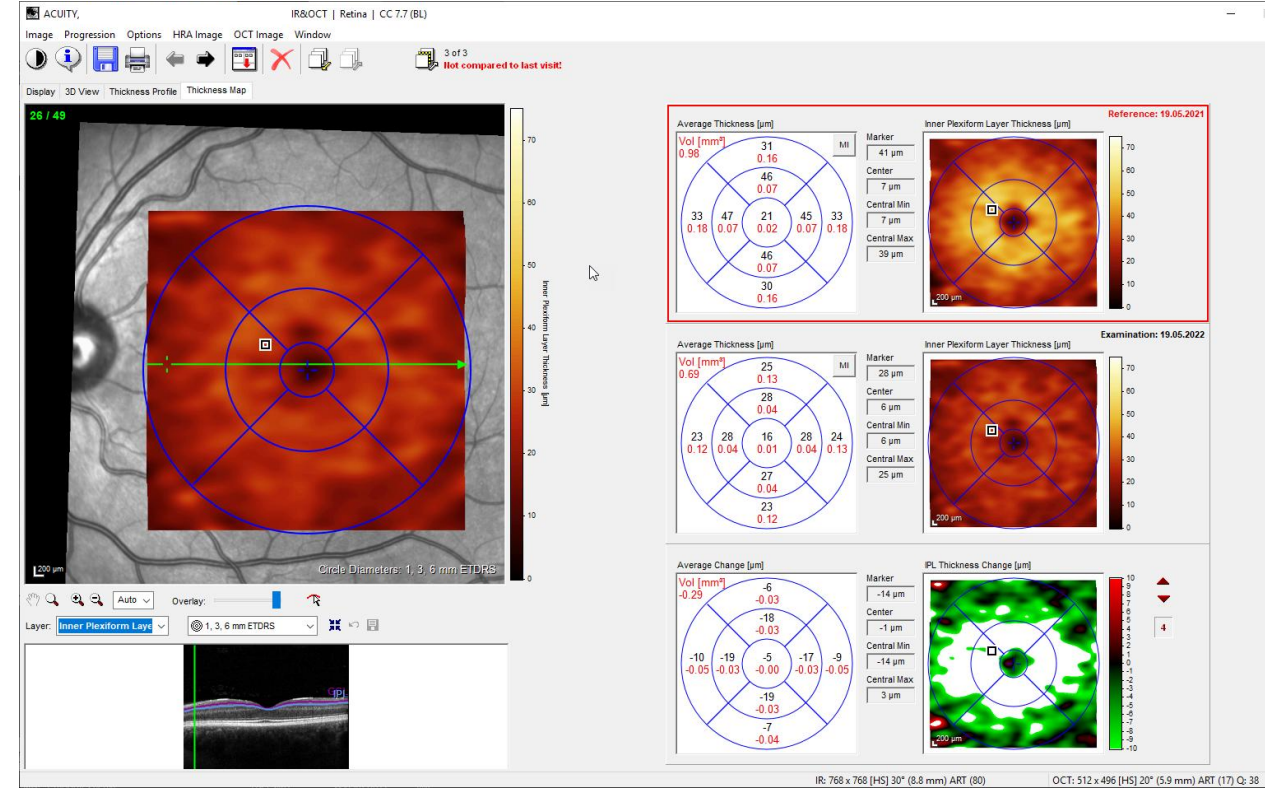


Spectralis OCT Imaging Protocol

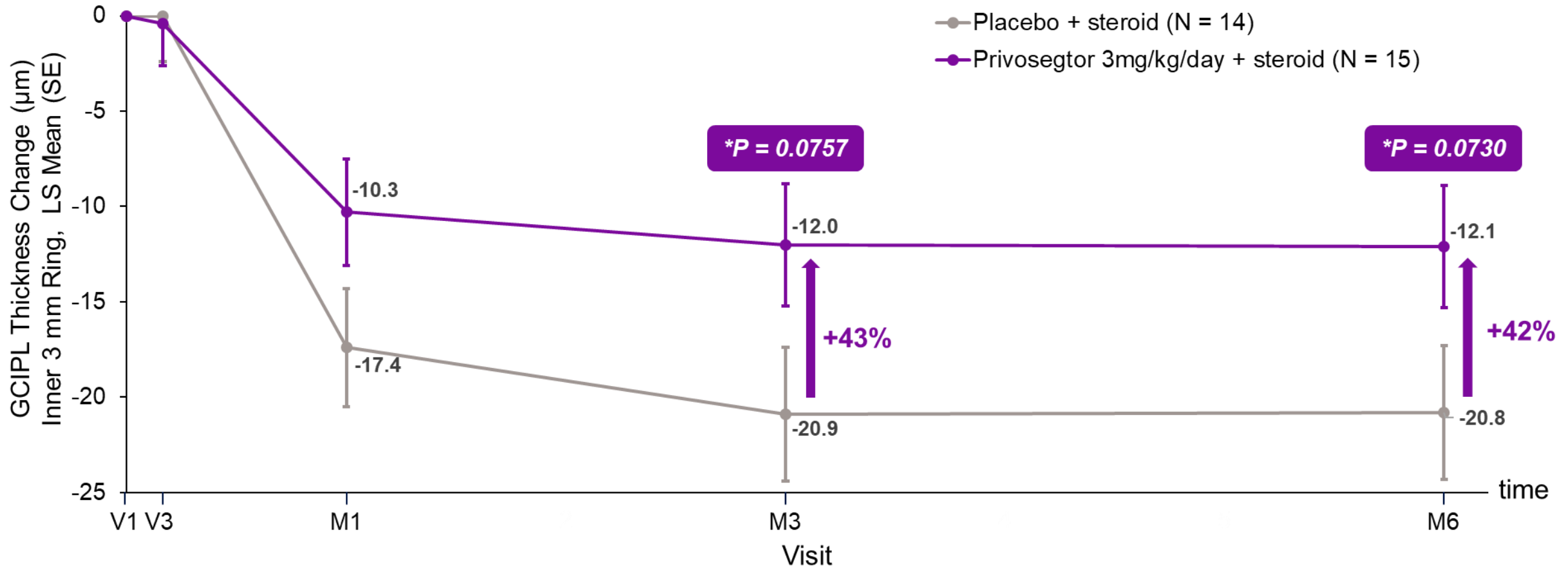
Ganglion Cell Layer



Inner Plexiform Layer

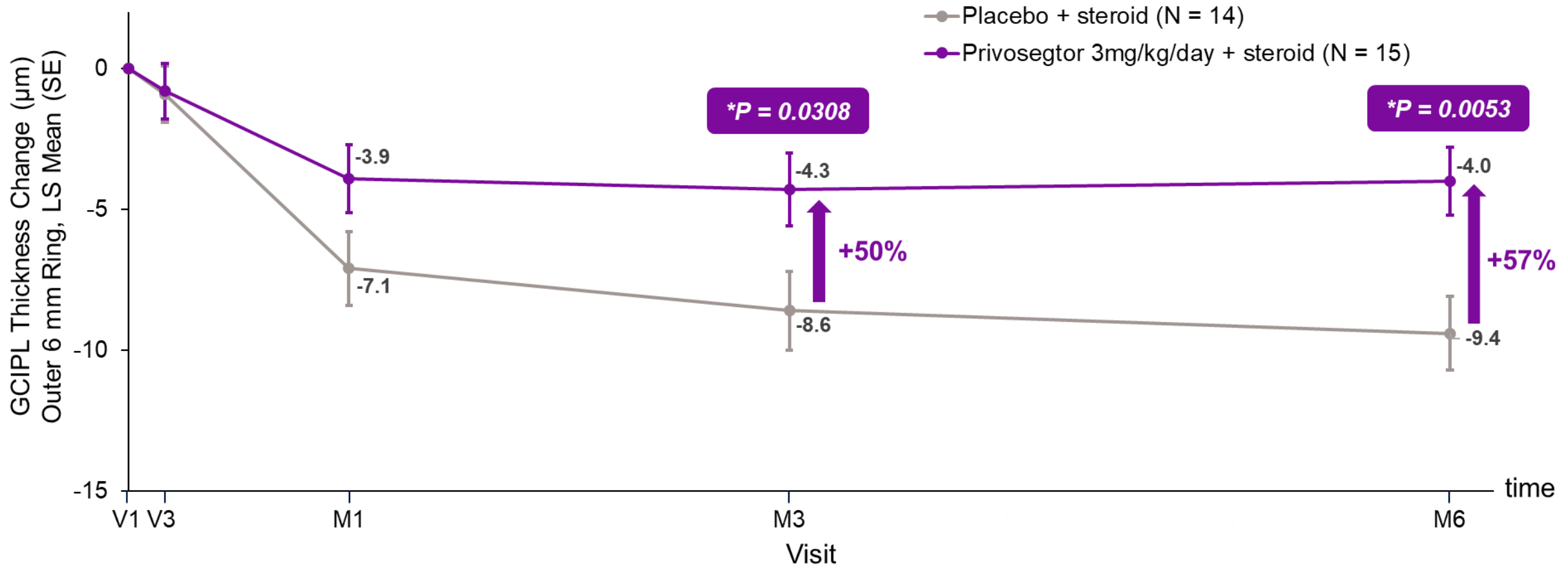


Numerically Greater Preservation of GCIPL Thickness in the Inner Ring with Privosegtor 3mg/kg/day



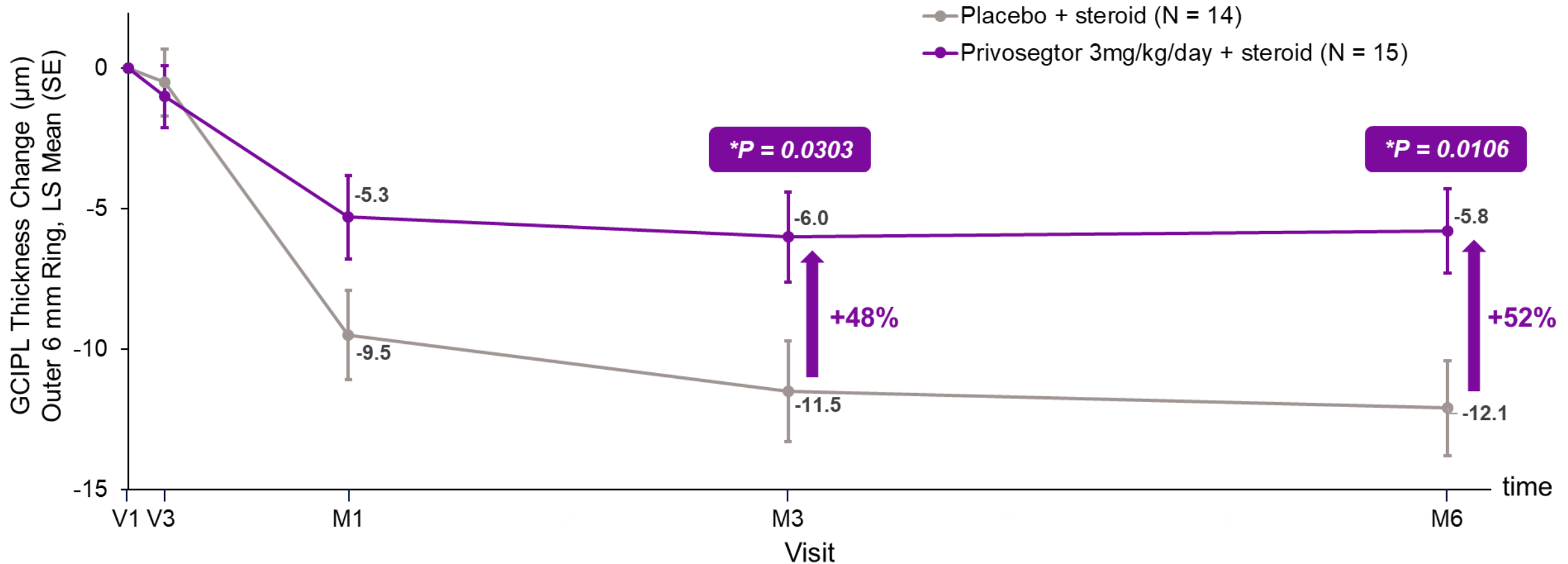
*Mixed Model for Repeated Measures (MMRM); Least-Squares Mean Change from Baseline: (2-sided p-value), mITT population (affected eye)
12 GCIPL; ganglion cell plus inner plexiform layer.

Greater Preservation of GCIPL Thickness in the Outer Ring with Privosegtor 3mg/kg/day



*Mixed Model for Repeated Measures (MMRM); Least-Squares Mean Change from Baseline: (2-sided p-value), mITT population (affected eye)

Greater Preservation of GCIPL Thickness Across Inner and Outer Regions Combined with Privosegtor 3mg/kg/day



*Mixed Model for Repeated Measures (MMRM); Least-Squares Mean Change from Baseline: (2-sided p-value), mITT population (affected eye)

Summary

- 1 Function: significant improvement in LCVA** with 18 letters difference at month 3
- 2 Structure: greater preservation of GCIPL across all regions** with Privosegtor
- 3 Safety: no AEs leading to study drug withdrawal or study discontinuation** and no drug related SAEs

Privosegtor showed promising results in protecting vision and structure in optic neuritis

Thank you!

**Thank you to all the investigators, study teams, and patients
who contributed to this work**