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Supplemental Information

Improved Intravitreal AAV-Mediated Inner Retinal Gene Transduction after Surgical Internal Limiting Membrane Peeling in Cynomolgus Monkeys

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Supplementary Figure

Figure S1.

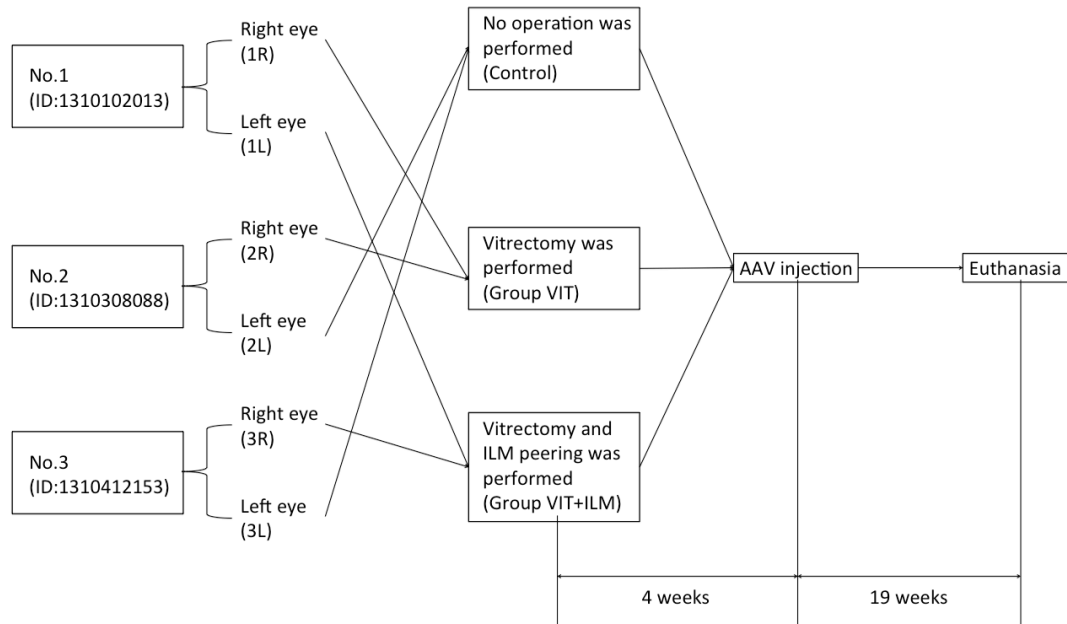


Figure S1. Experiment design.

We divided 6 eyes into three groups: 2 eyes received VIT 1 month before AAV injection (Group VIT), 2 eyes received VIT and ILM peeling 1 month before AAV injection (Group VIT+ILM), and 2 eyes received no pretreatment before AAV injection (Control). Nineteen weeks after intravitreal injection of AAV, eyes were enucleated, and histological analysis was performed.

Figure S2.

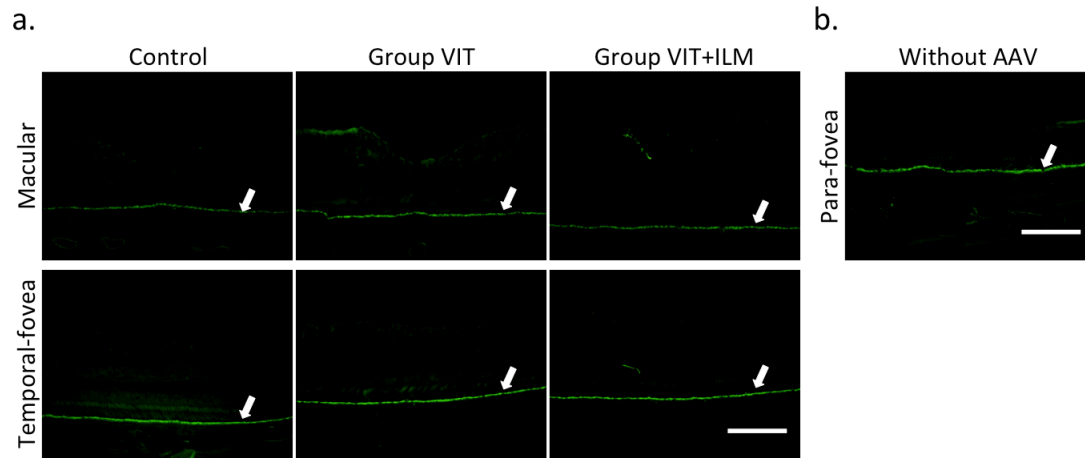


Figure S2. Autofluorescence from the RPE.

a) Nineteen weeks after intravitreal injection of AAV, eyes were enucleated, sectioned and stained for GFP without a secondary antibody to detect the autofluorescence (200 \times , bar = 200 μ m). b) Histological evaluation of GFP expression in the retina without tm-scAAV2/EGFP administration, we sectioned para fovea and stained for GFP (200 \times , bar = 200 μ m).

GFP expression in the RPE was detected without a secondary antibody and without tm-scAAV2/EGFP administrated retina, indicating that the RPE exhibits autofluorescence (White arrows).

Figure S3.

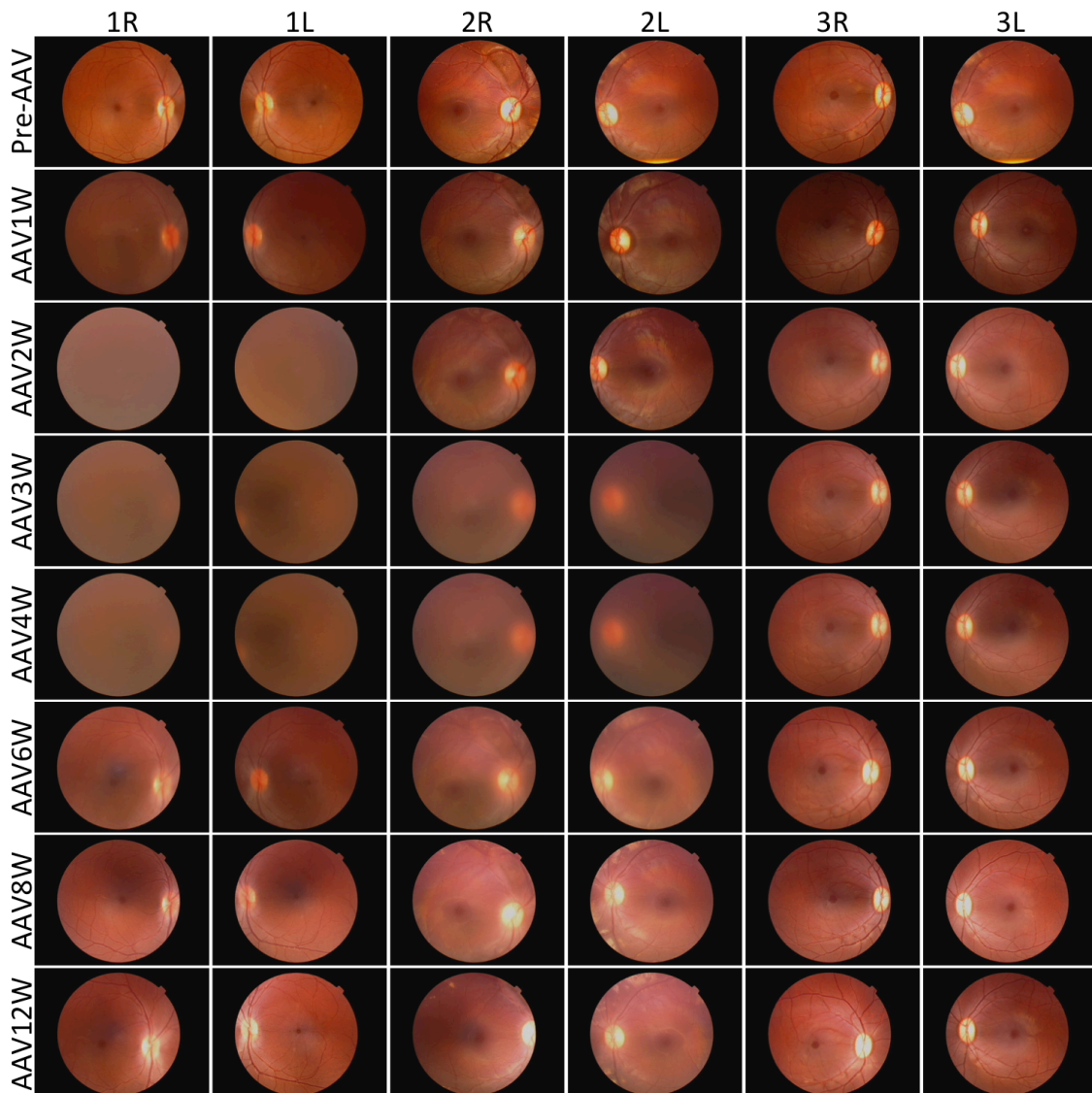


Figure S3. Color fundus images before and after AAV injection.

Vitreous inflammation was detected in both eyes of monkey No.1 during weeks 2-4 after AAV vector injection. Mild inflammation remained 6 weeks after AAV vector injection but was healed naturally by week 8 after injection. Vitreous inflammation was detected in both eyes of monkey No. 2 during weeks 3-4, after AAV injection, and mild inflammation

remained 6 weeks after AAV injection, but was healed naturally by 8 weeks after injection.

No inflammation was detected in either eye of monkey No. 3.

Figure S4.

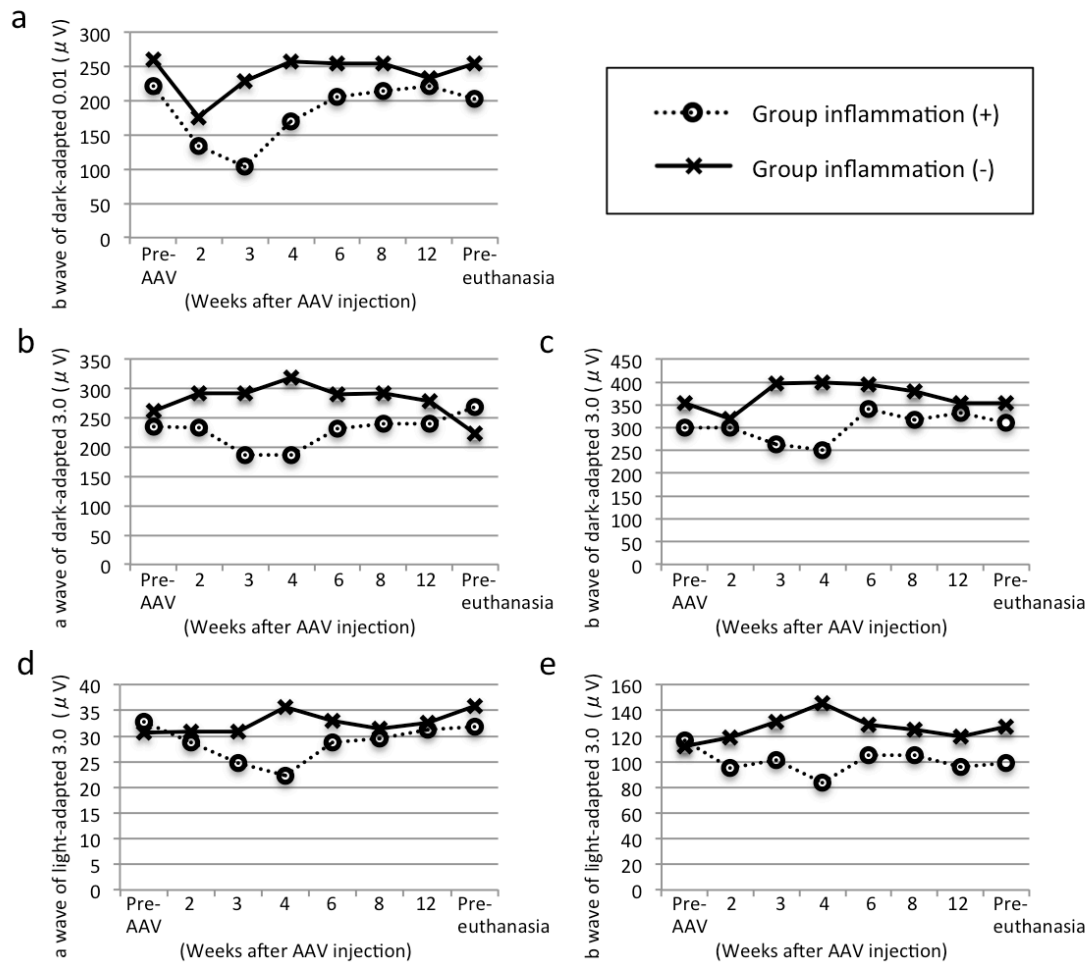


Figure S4. Amplitudes of a- and b-waves in full-field ERGs.

Amplitudes of full-field ERGs were regrouped to compare eyes with inflammation (group inflammation (+), n=4) to eyes without inflammation (group inflammation (-), n=2). (a) Plots of amplitudes of b-waves in dark-adapted 0.01 full-field ERGs. (b, c) Plots of amplitudes of a-waves (b) and b-waves (c) of dark-adapted 3.0 full-field ERGs. (d, e) Plots of amplitudes of a-waves (d) and b-waves (e) of light-adapted 3.0 full-field ERGs.