

Supplemental Figure Legends

Supplemental Figure 1. Saline injection did not change the amplitudes of a- and b-waves and OPs. **(A)** The mean IOP of saline-injected eyes (n = 9) at 11 - 14 weeks post-injection was similar to control eyes (n = 8). $P = 0.09$ in Student's t-test. **(B-D)** No change was detected in the mean amplitudes of a-wave (B), b-wave (C) and OPs (D) from saline-injected eyes at 11 - 14 weeks after saline injection. P values were calculated in two-way ANOVA, Sidak's post-test. This figure is related to Fig. 2J-M.

Supplemental Figure 2. *Nissl* staining of cross-sections of the SC. The contralateral SC receiving inputs from right hypertensive eye displayed a largely normal structure (A) compared to the control (Ipsilateral SC; B). SC neurons were recorded from the superficial layers (SCs), mainly from the SGS (stratum griseum superficiale) and also including some of the SO (stratum opticum). SCi: intermediate layers of SC; SGI: stratum griseum intermediale; D: Dorsal; V: Ventral; M: Medial; L: Lateral. This figure is related to Fig. 5.