Figure S1

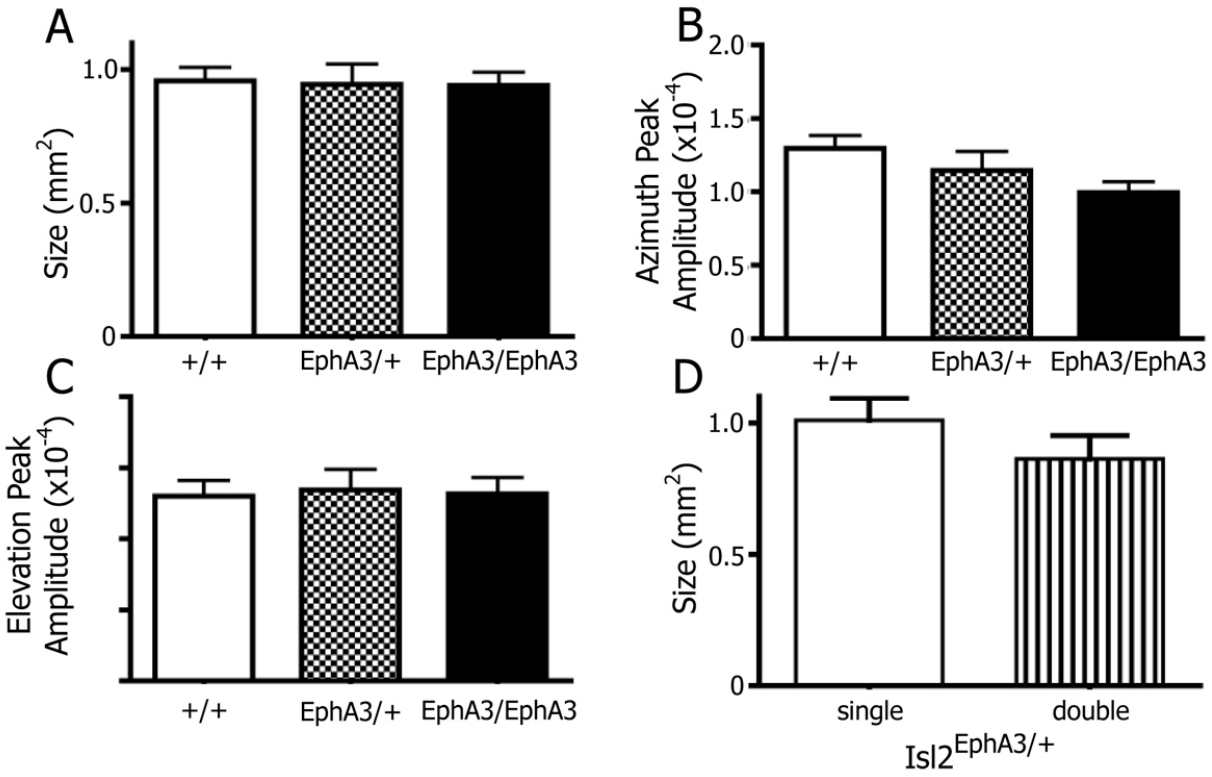

Figure S1, refers to Figure 1. Size and strength of functional representations are unchanged in Isl2^{EphA3} knock-in mice. A) Quantification of average SC map size in wild type (+/+, white), heterozygous (EphA3/+, checkered), and homozygous (EphA3/EphA3, black) knock-in mice. B & C) Quantification of average peak amplitude of response in the azimuth (B) and elevation (C) representation in wild type (+/+, white), heterozygous (EphA3/+, checkered), and homozygous (EphA3/EphA3, black) knock-in mice. D) Quantification of average map size in the SC of Isl2$^{EphA3/+}$ in which the map was singular (white) or doubled (striped).

Figure S2

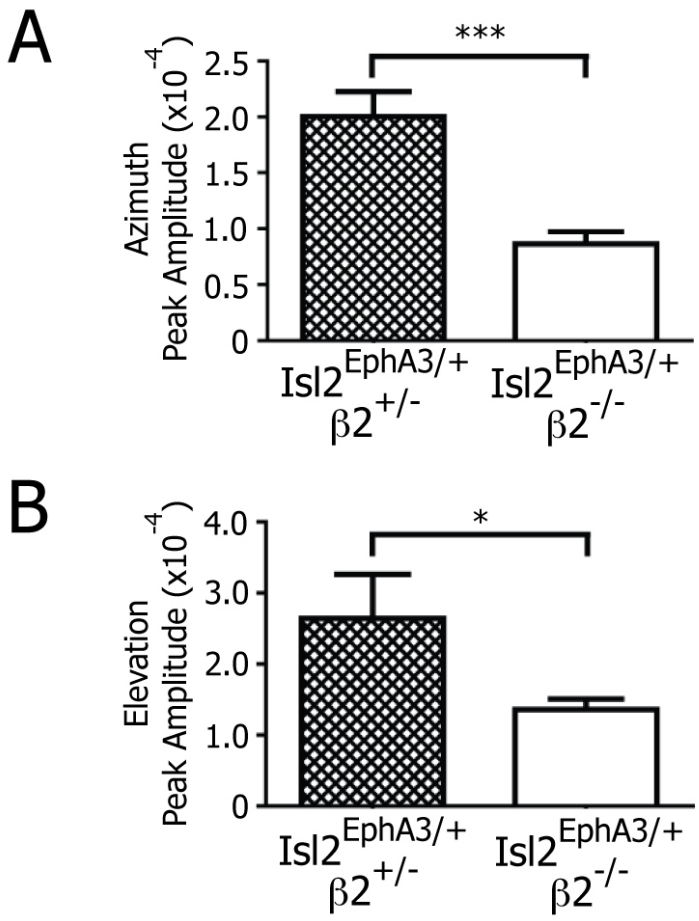

Figure S2, refers to Figure 6. Reduced peak response amplitude in functional representations in $Isl2^{EphA3/+}/\beta2^{-/-}$ mice. A & B) Quantification of average peak amplitude of response in the azimuth (A) and elevation (B) representation in $Isl2^{EphA3/+}/\beta2^{+/-}$ (checkered) and $Isl2^{EphA3/+}/\beta2^{-/-}$ (white) mice

Figure S3

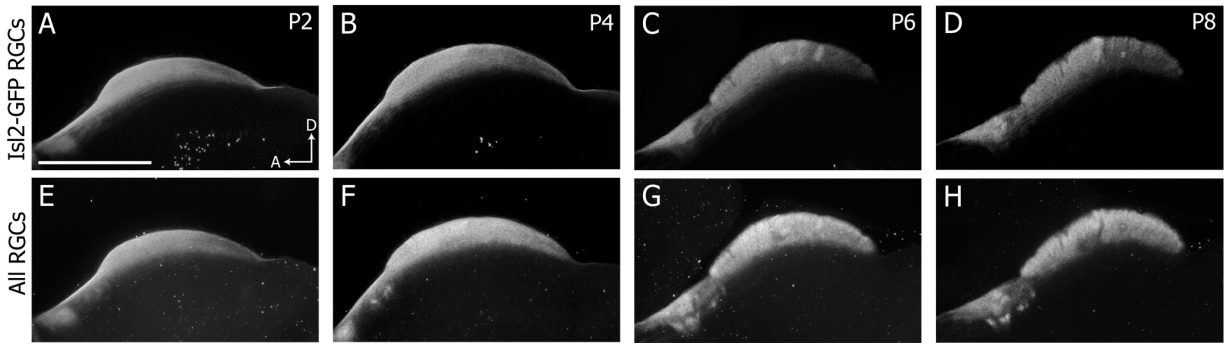

Figure S3, refers to Figure 7. Developmental projection patterns of $Isl2^{+}$ RGCs in $Isl2^{EphA3/+}$ mice. A-D) Parasagittal sections through the SC of $Isl2^{EphA3/+}$;Isl2-GFP mice at postnatal day 2 (P2) (A), P4 (B), P6 (C), and P8 (D) reveals an early innervation of the entire anterior-posterior axis and gradual concentration of inputs in the anterior. E-H) Parasagittal sections through the SC of $Isl2^{EphA3/+}$;Isl2-GFP mice at P2 (E), P4 (F), P6 (G), and P8 (H) in which CTB-555 was injected intraocularly one day prior reveals the projection patterns of all RGCs. Panels A & E, B & F, C & G, and D & H are the same section. *bar, 0.5 mm; A, anterior; D, dorsal*