

Figure S1. (A) Photomicrographs showing TUNEL staining of the retinas. The eyes were excised 4 (**a, b, c, d**), 8 (**e, f, g, h**) and 12 (**i, j, k, l**) hours after intravitreal injection of saline (vehicle) or 40 nmol/eye NMDA. Panels **b, d, f, h, i** and **l** (Merge) show the TUNEL staining merged with nuclear counterstaining with DAPI. GCL: the ganglion cell layer, IPL: the inner plexiform layer, INL: the inner nuclear layer, OPL: the outer plexiform layer, and ONL: the outer nuclear layer. The nuclei of TUNEL-positive cells are stained green. All the nuclei are counterstained blue. The white arrows represent the TUNEL-positive cells. Scale bar is 50 μm . Original magnification, $\times 400$. **(B, C)** The numbers of the TUNEL-positive cells in GCL (**B**) and INL (**C**) per one retinal section are shown. Each datum is presented as mean \pm SEM of 3 to 5 independent experiments. $*p < 0.05$, between the indicated pairs using Tukey-Kramer test.

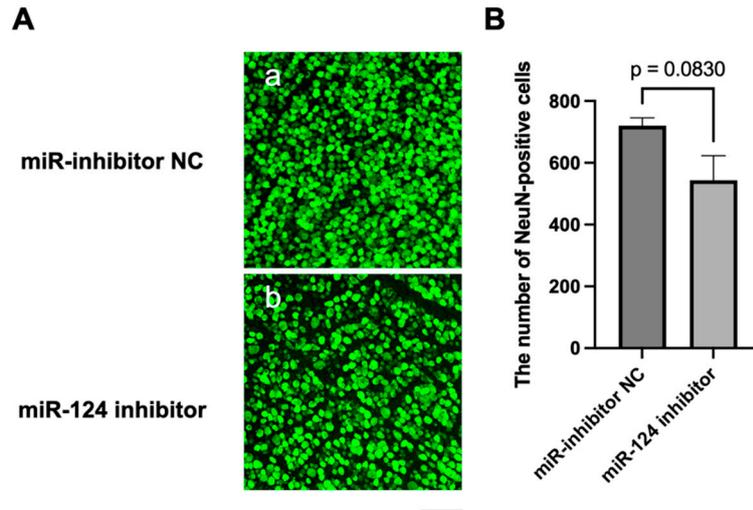


Figure S2. (A) The images of whole mount of the retina of the eyes treated with 10 nmol/eye miR-inhibitor NC **(a)** and 10 nmol/eye miR-124 inhibitor **(b)**. The eyes were excised 7 days and 18 hours after intravitreal injection of miR-inhibitor NC and miR-124 inhibitor. The flat-mount retina was stained with Alexa Fluor 488-conjugated anti-NeuN antibody to visualize the neurons in the ganglion cell layer (GCL). Scale bar is 100 μ m. Original magnification, $\times 200$. **(B)** The numbers of the NeuN-positive cells in GCL in an area of 0.2 mm² nearby the optic nerve head 7 days and 18 hours after intravitreal injection of miR-inhibitor NC and miR-124 inhibitor are shown. Each datum is presented as mean \pm SEM of 5 to 6 independent experiments.