AB004: Resuscitation of axon regenerative potential in mature retinal ganglion cells

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Abstract: Axon regeneration capacity declines in mature retinal ganglion cells (RGCs). While a number of transcription factors and signaling molecules have been implicated to the loss of regenerative potential of RGC axon, their upstream regulators are unclear. We investigated the association between developmental decline of RGC regenerative potential and age-related changes in microRNA (miRNA) expression and showed that loss of axon regenerative potential can be partially restored by upregulating miR-19a in RGCs *in vitro* and *in vivo*. Regulating miRNA expression represents a new potential therapeutic approach to resuscitate age-related loss of axon growth ability.

Keywords: microRNA (miRNA); retinal ganglion cell (RGCs); axon regeneration

Cite this abstract as: Christopher LK. Resuscitation of axon regenerative potential in mature retinal ganglion cells. Ann Eye Sci 2017;2:AB004. doi: 10.21037/aes.2017.AB004