Zhu et al. found that upregulation of miR-494 by agomir-494 improves functional recovery, reduces lesion size and inhibits apoptotic cell in rats following SCI. Moreover, our data showed that miR-494 suppresses phosphatase and tensin homolog (PTEN), a negative regulator of AKT/mTOR pathway, through directly targeting its 3'-UTR in BV-2 cells. Most importantly, we demonstrated that overexpression of miR-494 activates AKT/mTOR signaling pathway via inhibiting PTEN expression in rat SCI model. These findings suggested that miR-494 harbored the protective effect after SCI by modulating PTEN/AKT/mTOR pathway in rats and it is a potential candidate for SCI therapeutics [1].

1)
Zhu H, Xie R, Liu X, Shou J, Gu W, Gu S, Che X. MicroRNA-494 improves functional recovery and inhibits apoptosis by modulating PTEN/AKT/mTOR pathway in rats after spinal cord injury. Biomed Pharmacother. 2017 Jun 7;92:879-887. doi: 10.1016/j.biopha.2017.05.143. [Epub ahead of print] PubMed PMID: 28601045.