

apoptosis + ROS

miRNA-29b

glutamate-treated PC12 cell → cell overactive (excitotoxicity)

ROS ↑ apoptosis ↑

→ Bcl2 proto-oncogene, either anti- or pro-apoptotic

→ Bax, Caspase 3

miRNA-9

apoptosis ↓

→ Bcl-2l11 (Bim) pro-apoptotic, bind to Bax

miRNA-195

apoptosis ↓ synaptic plasticity ↑

→ KLF5

→ JNK signaling

inflammation

miRNA-3473b

inflammation ↑

→ iNOS, COX-2, TNF- α , IL-6 pro-inflammatory factor

→ SOCS3 immunity regulator

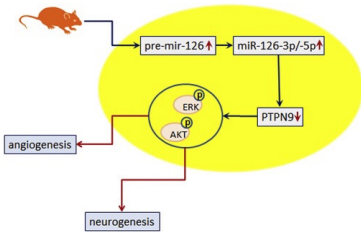
Angiogenesis & neurogenesis ^{review paper}

miRNA-126

angiogenesis ↑ neurogenesis ↑

→ AKT/ERK signaling *neuroprotective*, angiogenesis & neurogenesis ↑

→ PTPN9 *inhibit*



[https://www.cell.com/molecular-therapy-family/nucleic-acids/fulltext/S2162-2531\(19\)30032-0?](https://www.cell.com/molecular-therapy-family/nucleic-acids/fulltext/S2162-2531(19)30032-0?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2162253119300320%3Fshowall%3Dtrue)

[_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2162253119300320%3Fshowall%3Dtrue](https://www.cell.com/molecular-therapy-family/nucleic-acids/fulltext/S2162-2531(19)30032-0?_returnURL=https%3A%2F%2Flinkinghub.elsevier.com%2Fretrieve%2Fpii%2FS2162253119300320%3Fshowall%3Dtrue)

MicroRNA-126 Regulates Angiogenesis and Neurogenesis in a Mouse Model of Focal Cerebral Ischemia

miRNA-874-3p

angiogenesis ↑ inflammation ↓

→ Wnt/β-catenin pathway → CXCL12 *proceed stroke*

→ TNF-α, IL-1, IL-6, IL-8 *pro-inflammatory factor*

→ IL-10 *anti-inflammatory cytokine*

phagocytosis

miRNA-98

phagocytosis ↓

→ PAFA

→ iNOS

↘ regulate