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# CHINESE MEDICINE FOR STROKE, BREAKING THROUGH BLOOD BRAIN BARRIER AND PROMOTING NEUROGENESIS

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**S**troke is great challenge to human health. Blood brain barrier and nerve regeneration is the key factor for stroke treatment. Wu Shen Xing Nao Fang (WSXN) is composed of ginseng polygoni multiflori radix and ginkgo leaf, with the function of promoting blood circulation to remove blood stasis and awakening brain function has been made into dropping pill available for clinical stroke.

## Breaking the blood-brain barrier and brain targeting

WSXN could reversibly open the blood-brain barrier, increasing the bioavailability of ginseng saponins, distyrene and ginkgolide, through the blood brain barrier into the brain tissue, to increase the concentration of within the brain tissue as much as 2~10 times. Oral dosage of 40, 80 mg/kg of WSXN for 7 days or 14 days can significantly reduce ischemic infarction area to more than 35% in MCAO and 4 VO cerebral ischemia models of rats, inhibit the neuroinflammation and mortality of the hippocampus CA1 area neurons >60%; and also improve the learning and memory of damaged rats; increase the number of BrdU positive cells in the ischemic tissue by 300% and promote the nerve regeneration. 0.2~5 µg/ml of WSXN can promote the proliferation and directional differentiation of neural stem cells, reduce neuronal injury and apoptosis of the neuron induced by hypoxia oxidative stress and Aβ 25-35, whose efficacy index is superior to that of ginkgo biloba extract (EGB761®). Oral administration of WSXN for 90 days showed no obvious liver and kidney toxicity in rats. Clinical volunteers orally taking WSXN pill 0.35 g a time, three times a day, for 2~6 months, can eliminate sequela hemiplegia and movement disorder of the stroke patients and muscle tremor symptom of Parkinson's disease, resulting in independent living with effective rate > 80%

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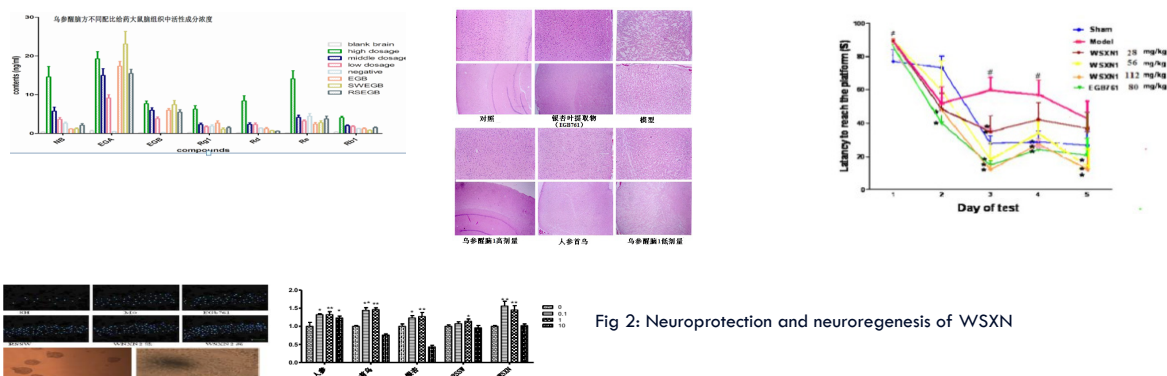


Fig 2: Neuroprotection and neuroregeneration of WSXN