



Title: Exosomes derived from human neural stem cells improve therapeutical ability for ischemic stroke

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Abstract:

Stroke is a leading cause of adult injury that can seriously impair patients' quality of life; however, no appropriate treatment is currently available. Transplanted neural stem cells mainly facilitate neural tissue development and functional recovery by releasing paracrine factors. Exosomes are essential secreted paracrine molecules that deliver therapeutic agents involved in cellular functions. We investigated the role of exosomes derived from human neural stem cells (hNSC-Exo) in this study. Our previous work showed that hNSC-Exo could boost sensorimotor functions in a thromboembolic rat model of stroke. Also, hNSC-Exo was tested in a preclinical nonhuman primate ischemic stroke model, where virtual endpoints were used to measure functional changes and rehabilitation. The molecular mechanisms were simultaneously investigated.