



Cell-secretome therapy for white matter injury

White matter damage caused by chronic cerebral hypoperfusion is a histological feature of stroke, while endothelial progenitor cells (EPCs) and their released factors (secretome) are known to participate in vascular repair. We aim to study the effects of EPC secretome on oligovascular remodeling in a mouse model of white matter injury after prolonged cerebral hypoperfusion. In vitro, the EPC secretome enhanced endothelial and OPC proliferation, and potentiated OPC maturation. In vivo secretome therapy enhanced oligovascular remodeling improving cognitive function. Our results highlight the importance of EPC-released proteins in therapeutic strategies for white matter injury after cerebrovascular disease.