

Abstract

Extracellular vesicles (EVs) are cell-derived membrane vesicles, which represent an important part of intercellular communication by transferring cytosolic proteins, lipids, and RNAs between cells. It has been proved that mesenchymal stem cells (MSCs) are potent producers of EVs with a therapeutic effect comparable to their parental cells. Moreover, recent findings suggest that EVs may strongly contribute to their physiological function. The aim of this thesis is to introduce extracellular vesicles derived from mesenchymal stem cells (MSC-EVs) as a novel cell-free alternative to the cell-based therapy and focus on their neuroprotective properties studied in various neurological diseases.