

## Special Issue

# Exosome: New Approaches of Therapy for Cell Death

### Message from the Guest Editors

Stem cell-based therapies for repair and regeneration show a paradigm shift; however, stem cell therapy to treat neurodegenerative disease has not been as successful as expected in some preclinical studies. Many groups have studied whether the therapeutic effect of mesenchymal stem cells (MSCs) is due to the cell type, microenvironment after transplant, or disease model. However, in vivo MSC treatment has risks related to cell differentiation and their tumorigenic potential, and the consequent failure to reach the target site or reach the injured site in the brain is negligible. Neuroprotection of MSC occurs due to its secretion of different proteins which have paracrine and autocrine therapeutic activities. The secretome/conditioned medium from MSC is a heterogeneous bioactive molecule considered a biotechnological product, which is safer compared to the living MSC. The secretome directly contributes to the recovery of the damaged tissues. Therefore, considering their regenerative and restorative abilities, the secretome/exosome from different sources of MSC is proposed as the main biological effector as a possible alternative to MSC treatment in neurodegenerative diseases.

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### Guest Editors

Dr. Sujeong Jang

Department of Physiology, Chonnam National University Medical School, Hwasun, Jellanam-do 58128, Republic of Korea

Prof. Dr. Han Seong Jeong

Department of Physiology, Chonnam National University Medical School, Hwasun, Jellanam-do 58128, Republic of Korea

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Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
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Department of Physiology, Institute of Nutrition and Food Technology  
"Jose Mataix", Biomedical Research Center, University of Granada,  
Avda. Conocimiento s/n, 18100 Armilla, Granada, Spain

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