

Tentative Outline

Special Thematic Issue for the journal (Current Molecular Medicine, CMM)

Title of the Thematic Issue: Secretome and Extracellular Vesicles as Cell Free Therapeutics

Guest Editors: Dr. Nazmul Haque & Dr. Noor Hayaty Abu Kasim

Scope of the Thematic Issue:

From the year 1980 to 2015, life expectancy has been increased about 10 years and reached 71.9. Meanwhile, the gap between life expectancy and healthy life expectancy has been reported about 9 years, which indicates a large number of people all around the world is living with illness and physical disability. Whereas, non-communicable diseases such as acute myocardial infarction, stroke, diabetes, cancer, spinal cord injuries, Alzheimer's disease, Parkinson's disease etc. are considered the major contributors to the morbidity.

There are several symptomatic treatments available to treat non-communicable degenerative diseases. However, till now there is no effective therapeutic modality that could help to regenerate the affected organ. Recently, cell based regenerative therapy is being considered as a hope to regenerate and repair defected organs or tissues. It is noteworthy to mention that the issues related to teratoma formation, epigenetic memory, genetic instability and poor survival following transplantation yet to be resolved. This opened up a new window in the field of the regenerative medicine and led researchers to explore the potential of secretome and extracellular vesicles (EVs) as cell free therapeutics.

In this special issue, contributions are encouraged to investigate the regenerative potential of secretome and EVs as alternatives to stem cell-based therapy to treat non-communicable and degenerative diseases. Pre-treatment of the cells or special procedure that could help to produce secretome or EVs enriched with the particular miRNAs, mRNAs and/or paracrine factors for successful regeneration of a targeted organ are encouraged as well.

We hope that this special issue focusing on the regenerative potential of secretome and EVs will provide new insights into their potential clinical application from the molecular point of view.

Keywords: epigenetic modification; exosomes; microvesicles; paracrine factors; regenerative medicine; stem cells

Sub-topics:

1. Regenerative potential of secretome
2. Regenerative potential of extracellular vesicles
3. Sources and composition of secretome
4. Secretome for site specific migration and engraftment
5. mRNAs and miRNAs content in extracellular vesicles
6. Targeted epigenetic modifications by extracellular vesicles

Tentative titles of the articles and list of contributors:

1. Adult stem cells derived extracellular vesicles and their potential uses in cell free regenerative therapy.
2. Role of peripheral blood mononuclear cell derived secretome on the directional migration of cells and regeneration of organs.
3. Molecular basis of epigenetic changes by extracellular vesicles to facilitate targeted organ specific regeneration.
4. Production of secretome enriched with paracrine factors for regeneration of targeted organs.
5. mRNAs and miRNAs content in extracellular vesicles and their role in targeted organ specific regeneration.
6. Extracellular vesicles for the reversion of activated hepatic stellate cell.
7. Blood brain barrier crossing capability of extracellular vesicles and its possible use in neuronal regeneration.
8. Possible use of combinatorial biological pathway analysis to specify the regenerative potential of secretome/extracellular vesicles on the basis of their composition.

Note: Following final acceptance of the proposal, we will contact the prominent researchers affiliated to our partner universities to make the issue more impactful.

Schedule:

- ✧ Thematic issue submission deadline: 31 August 2020
- ✧ Peer Review Due: 30 September 2020
- ✧ Revision Due: 31 October 2020
- ✧ Announcement of acceptance by the Guest Editors: 31 November 2020
- ✧ Final manuscripts due: 15 December 2020

Contacts:

Guest Editor Name: **Nazmul Haque**

Affiliation: Oral Biology and Biomedical Sciences, Faculty of Dentistry, MAHSA University, 42610 Selangor, Malaysia

Email: tanna.bge@gmail.com

Guest Editor Name: **Dr. Noor Hayaty Abu Kasim**

Affiliation: Department of Restorative Dentistry, Faculty of Dentistry, University of Malaya, 50603 Kuala Lumpur, Malaysia.

Email: nhayaty@um.edu.my