Content available at: https://www.ipinnovative.com/open-access-journals

IP Indian Journal of Immunology and Respiratory Medicine

Journal homepage: https://www.ijirm.org/

Letter to Editor

Mesenchymal stem cell-derived multivesicular bodies: Is it innovative novel cell-based therapeutic adjunct for trauma hemorrhagic shock patients?

Manoj Kumar[1,*], Kavneet Anand[2], Sanjeev Bhoi[3]

[1]*Dept. of Microbiology, Sukh Sagar Medical College & Hospital, Jabalpur, Madhya Pradesh, India*
[2]*Dept. of Dentistry, Sukh Sagar Medical College & Hospital, Jabalpur, Madhya Pradesh, India*
[3]*Dept. of Emergency Medicine, AIIMS Jai Prakash Narayan Apex Trauma Center, New Delhi, India*

ARTICLE INFO

Article history:
Received 28-02-2023
Accepted 15-04-2023
Available online 03-05-2023

This is an Open Access (OA) journal, and articles are distributed under the terms of the Creative Commons Attribution-NonCommercial-ShareAlike 4.0 License, which allows others to remix, tweak, and build upon the work non-commercially, as long as appropriate credit is given and the new creations are licensed under the identical terms.

For reprints contact: reprint@ipinnovative.com

Multivesicular bodies (MVBs) is very small (30–1000 nm) membrane-bound vesicles, also called extracellular vesicles (EVs). MVBs are secreted from intracellular matrix through the blending with the plasma membrane. MVBs also released from different cells types under normal and abnormal situations. Interesting, MVBs hold complex of delivery molecules, contain proteins and RNAs, and communicate this message to nearby cells to alter immune system, cell death, formation of blood vessels and inflammation. Previous studies reported that MSC-MVBs act as anti-inflammatory effects in many inflammations associated infection by delivering the complex of cargo molecule (miRNAs and immunomodulatory proteins) to macrophages. MSC-MVBs may promise used as an innovative stem cell free therapeutic to treat HS-induced lung injury.[1–3] MSC-MVBs can be innovative therapeutic option for the T/HS patients. Need to be attention.

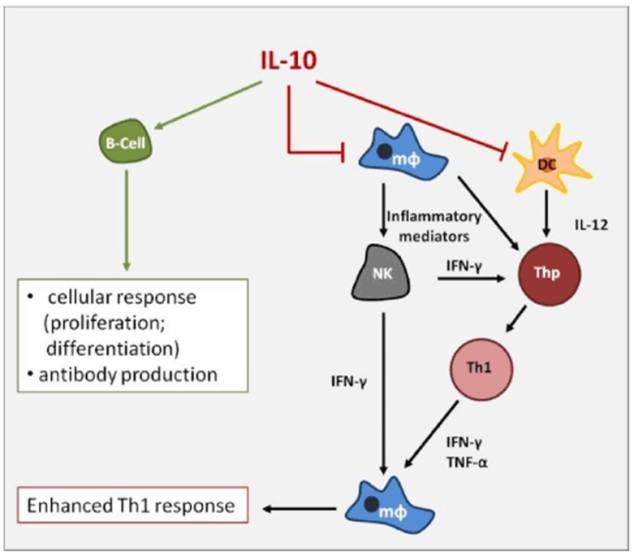

Fig. 1: IL-10 and immune reactivity via B-Cells.[4]

Source of Funding

None.

Conflict of Interest

None.

Acknowledgement

None.

* *Corresponding author*.
E-mail address: manojssmc@gmail com (M. Kumar).

https://doi.org/10.18231/j.ijirm.2023.009
2581-4214/© 2023 Innovative Publication, All rights reserved.

References

1. Zhang Y, Zhang X, Zhang H, Song P, Pan W, Xu P, et al. Mesenchymal Stem Cells Derived Extracellular Vesicles Alleviate Traumatic Hemorrhagic Shock Induced Hepatic Injury via IL-10/PTPN22-Mediated M2 Kupffer Cell Polarization. *Front Immunol*. 2022;12:811164. doi:10.3389/fimmu.2021.811164.
2. Zeineddin A, Wu F, Dong JF, Huang H, Zou L, Chao W, et al. trauma-derived extracellular vesicles are sufficient to induce endothelial dysfunction and coagulopathy. *Shock*. 2022;58(1):38–44.
3. Potter DR, Miyazawa BY, Gibb SL, Deng X, Togaratti PP, Croze RH, et al. Mesenchymal stem cell-derived extracellular vesicles attenuate pulmonary vascular permeability and lung injury induced by hemorrhagic shock and trauma. *J Trauma Acute Care Surg*. 2018;84(2):245–56.
4. Fioranelli M, Grazia RM. Twenty-five years of studies and trials for the therapeutic application of IL-10 immunomodulating properties. From high doses administration to low dose medicine new paradigm. *J Integr Cardiol*. 2014;1(1):2–6. doi:10.15761/JIC.1000102.

Author biography

Manoj Kumar, Associate Professor

Kavneet Anand, Associate Professor

Sanjeev Bhoi, Professor and HOD

Cite this article: Kumar M, Anand K, Bhoi S. Mesenchymal stem cell-derived multivesicular bodies: Is it innovative novel cell-based therapeutic adjunct for trauma hemorrhagic shock patients?. *IP Indian J Immunol Respir Med* 2023;8(1):37-38.