

## Mesenchymal Stem Cells Lysate as a Cell-Free Therapy

**Sabeen Malik**

University of Lahore, Pakistan

**M**esenchymal stem cells (MSCs), a self-renewing and multipotent population of cells that have proved to be a potential regenerative medical therapy option. Initially, it was assumed that the primary mechanism behind MSCs action was cell substitution by differentiation and engraftment at the injury site. However, recent trials have demonstrated that implanted cells don't last long and that the benefits of MSCs therapy may be triggered by a wide number of bioactive factors, essential for regulating main biological processes. Thus, supporting the paracrine mechanism of action of MSCs. Application of secretome could eliminate the potential risk factors associated with MSCs transplantation, like the unknown fate of cells after transplantation, malignant transformation and undesired differentiation of MSCs. However, the use of a secretome might not give long-lasting and desired results. Thus, it may

intuitively suggest the need for other treatment options. The cellular lysate is considered as an alternate cell-free treatment strategy for the cure of multiple disorders. The present review describes the MSCs secretome/extracellular vesicles and MSCs lysate, derived from bone marrow and adipose, as a cell-free therapy with the application of MSCs lysate for various diseases during the period 2010 from 2020. Moreover, it also highlights the advantages and limitations of each cell-free therapy.

### Speaker Biography

Sabeen Malik is a PhD Biotechnology scholar at the University of Lahore, Pakistan. Her Ph.D. dissertation is under foreign evaluation process. She has seven publications and many more are under publication process.

e: [sabeen004@gmail.com](mailto:sabeen004@gmail.com)

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