5<sup>th</sup> International Conference and Exhibition on

## **Cell and Gene Therapy**

May 19-21, 2016 San Antonio, USA

## Comparison of three strategies to differentiate mechanosensory cells from human mesenchymal stem cells (HMSCS) and hair follicle pluripotent stem cells

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Hearing loss (HL) is one of chronic diseases with high prevalence. In addition to congenital and age-related hearing loss, sensorineural hearing loss occurs after mechanosensory hair cells (HC) injury due to ototoxic agents, trauma and noise. In the mammalian cochlea, the organ of Corti contains of HCs wherein Atoh1 is one of the most important determinants whose function is required in early stages of development of inner ear HCs. miRNA-183 family including miR-96, miR-182 and miR is highly expressed in hair cells and is known to be directly involved in HC differentiation.

Here we compared overexpression of Atoh1 and miR-183 family as two different strategies to differentiate HCs from both human Mesenchymal Stem Cells (hMSCs) and Hair Follicle Pluripotent Stem Cells (hfPSCs) as two cellular sources.

The hfPSCs seem to be a better candidate for differentiation of HCs and expression of hair cell protein markers and it may be due to the ectodermal origin of this cells.

## **Biography**

Mohammad-Saeid Jami has completed his PhD from the University of Leon and postdoctoral studies from University of Nebraska Medical Center (NE) and St. Johns University (NY). He is assistant Professor at the department of cell therapy at Shahrekord University of Medical Sciences (SKUMS). He has published more than 12 papers in ISI journals and has been serving as an editorial board member of Journal of Cancer and Clinical Oncology and Journal of Molecular Biology Research.

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