80

2014

Study Title

MSCs: Inter-laboratory variability

Study Description

Because of their reparative, immunomodulatory and angiogenic potential, autologous and allogeneic human mesenchymal stem cells (hMSCs) are produced in cultures for a wide variety of clinical applications. However, there is a lack of standardized methodologies to culture human MSCs and it is unknown as to what the impact of different laboratories strategies have on the function of cultured derived hMSCs. To assess inter-laboratory variability associated with culturing hMSC, 3-4 different laboratories will receive three different bone marrows from the same source and culture the hMSC using their own laboratory methodologies. At passages 1, 2, and 3, viable cell counts will be performed and the fold-increases and doubling times will be determined. At the end of passage number #3, immunophenotyping will also be performed and harvested cells will be sent for microarray analysis. The purpose of this study is to assess the inter-laboratory variability associated with producing hMSCs by different laboratories using the same starting source of hMSC and each laboratory using its own culture conditions. The following characteristics will be evaluated a cell count and minimally immunophenotype for the following markers: CD105, CD73, CD90, CD34, CD45, CD14. In addition, cells will be analyzed for gene expression at NIH.

Study Status

Completed

Publication Number

140

Teams

CT

Study Leaders

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