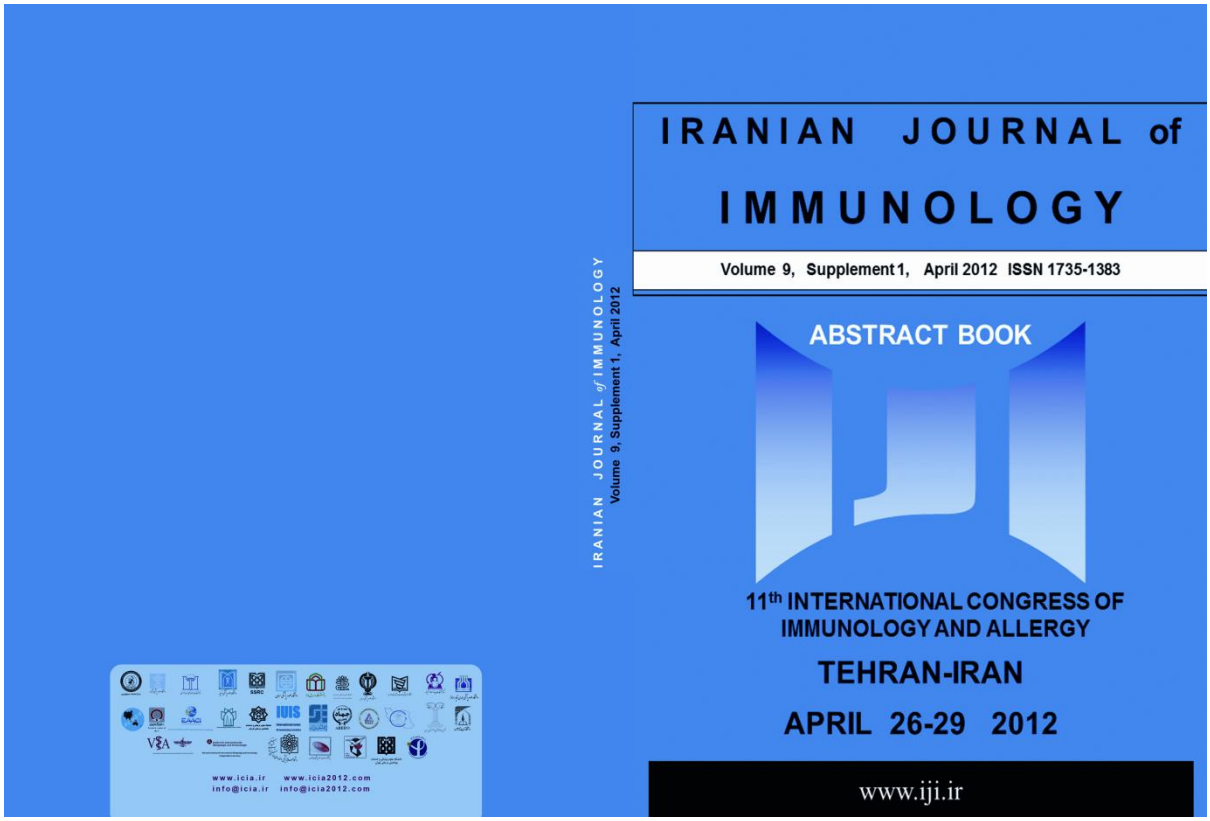

• Isolation and phenotyping analysis of Mesenchymal stem cells from murine lung tissue

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Background: Regeneration and repair in the adult lung are mediated by endogenous lung stem and progenitor cells. Mesenchymal stem cells (also named multipotent stromal cells) a subset of adult stem cells present in virtually all tissues. The aim of this study was to isolate, differentiate and examine the expression of major surface markers on murine lung derived mesenchymal stem cells. Materials and Methods: Mesenchymal stem cells(MSC) were isolated from the collagenase digests of murine lung tissues and expanded through several passages. To investigate the mesenchymal nature, cells were differentiated into the osteogenic and adipogenic lineages after 2-4 passages. Flow cytometry analysis was performed on cells from passages 2-4 and the cultured cells stained by different fluorescent-labeled monoclonal antibodies against specific cell surface markers. Results: After several passages, adherent cells with fibroblastic morphology appeared in culture flasks. The cells from different passages were capable of differentiating into Adipocyte and osteocyte. The cell populations expressed CD90,CD73 and CD105.They did not express CD34, CD45 and CD11b. Conclusions: Mesenchymal stem cells could be successfully isolated and cultured from murine lung tissue.
Keywords:Mesenchymal stem cell, Isolation, Lung tissue, Cell differentiation, flowcytometry analysis