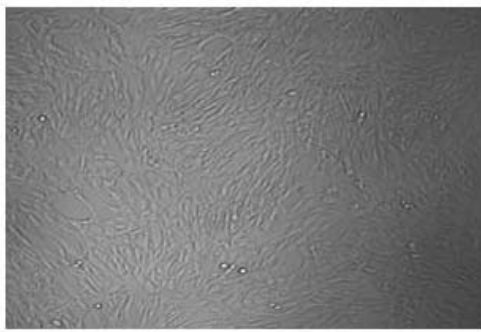
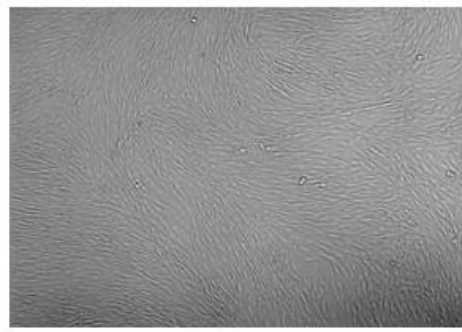


Supplementary data:



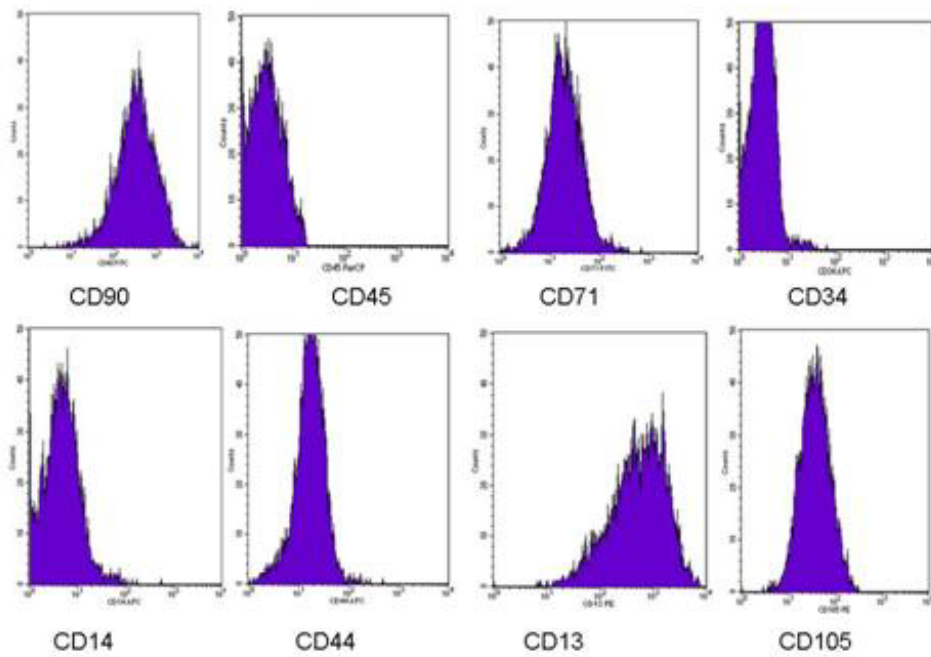
UC-MSC



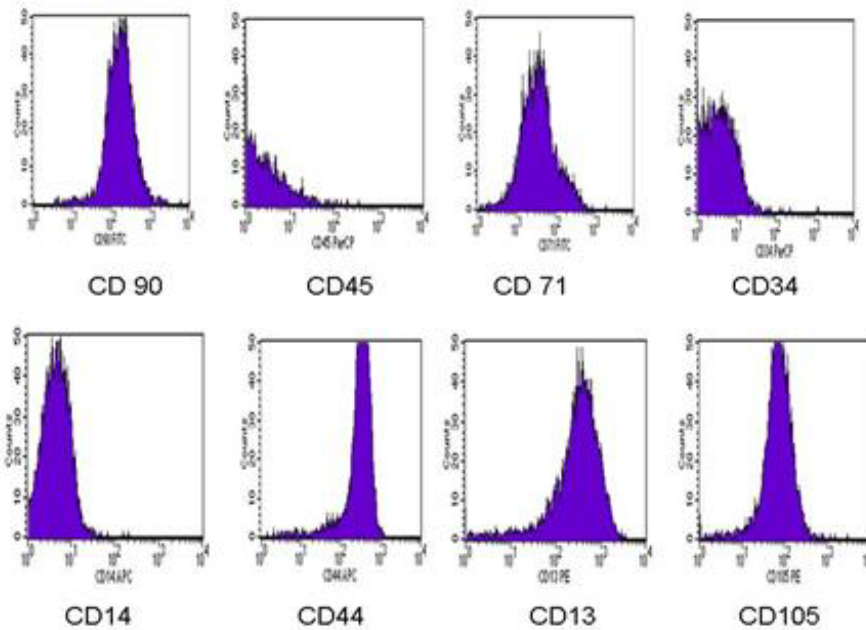
ASC

**Supplementary Figure 1. Morphology of UC-MSCs and ASCs ex vivo at Passage 3.** UC-MSC: human umbilical cord derived mesenchymal stem cell; ASCs: adipose tissue derived mesenchymal stem cell. Both type of cells displayed a fibroblast-like morphology.

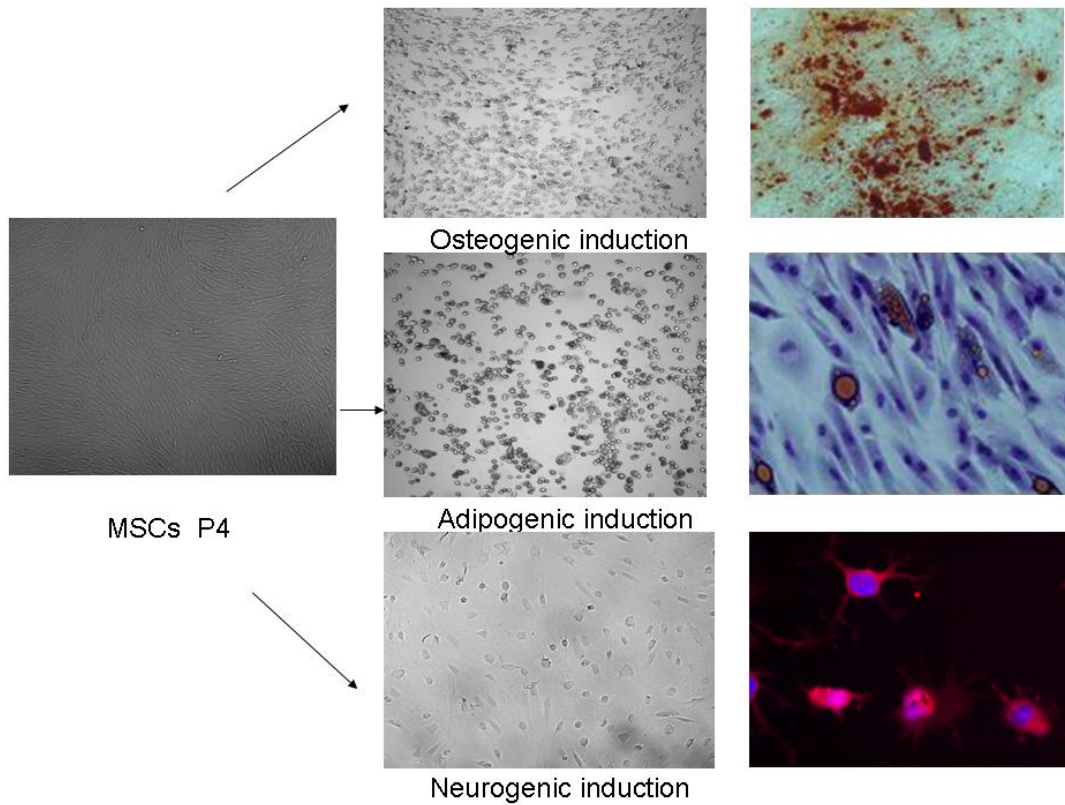
ASC



UC-MSC



**Supplementary Figure 2. Immunophenotyping of ASCs and UC-MSCs.** ASCs and UC-MSCs both exhibited positive surface antigenicity for CD13, CD44, CD71, CD90, CD105, and exhibited negative surface antigenicity for CD14, CD45 and CD34.



**Supplementary Figure 3. Multi-lineage Differentiation of Mesenchymal Stem Cells (MSCs).** ASCs and UC-MSCs were induced to differentiate into osteocytes, adipocytes and neurons, as is shown in light microscopy and in Alizarin red staining, Oil-Red-O staining and immunofluorescent staining (NSE is shown in red fluorescence).