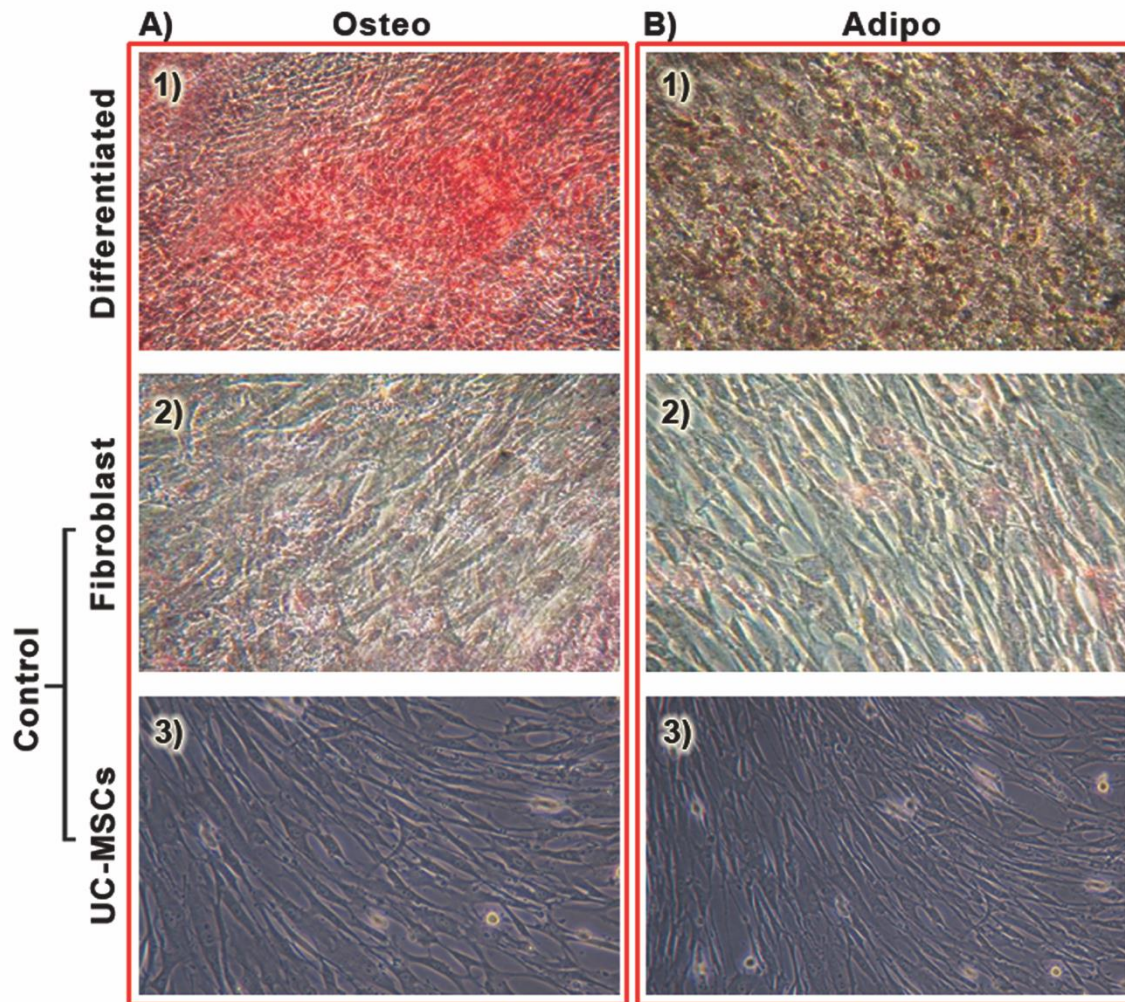


Additional file 3a

Immunophenotyping of UC-MSCs

Mononuclear cells from human umbilical cord tissue cultured in the complete medium and allowed to form adherent colonies. Adherent cells were expanded up to passage 3 and subjected to the Immunophenotyping using fluorescent conjugated monoclonal antibodies and analysed by BD Fortessa flow cytometer. Adherent cells from umbilical cord tissue showed profile of MSCs' immunophenotyping which are positive for CD29, CD105, CD90 and CD73, and negative for CD34, CD45, CD80, CD86 and HLA II.



Additional file 3b

Differentiation of UC-MSCs

Differentiation of UC-MSCs; formation of lipid droplets stained orangy-brown by Oil red O (B-1) and calcium deposition stained red by Alizarin Red (A-1) shows the differentiation capacity of UC-MSCs to Adipocyte and Osteocyte, respectively. Human skin fibroblast in induction medium (A-2 & B-2) and UC-MSCs in normal medium (A-3 & B-3) served as the negative control.