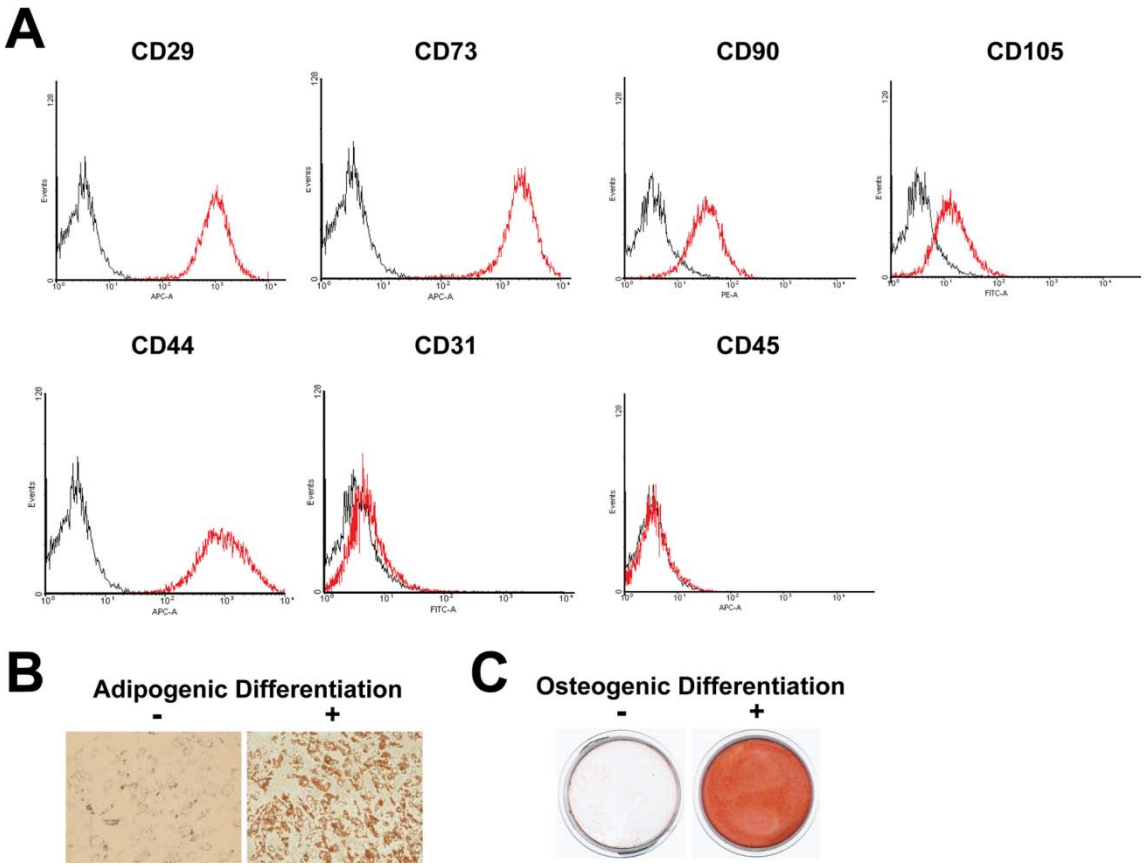
Supplementary Information



Supplementary Figure 1. Phenotypic characterization and differentiation potential of hASCs. **(A)** Immunophenotyping of hASCs by flow cytometric analysis. hASCs at passage 3 were immunostained for cell surface markers with specific antibodies. These cells were predominantly positive for CD29, CD44, CD73, CD90, and CD105 and negative for the hematopoietic lineage marker CD45 and endothelial marker CD31. All histograms show specific monoclonal antibodies in red color and control isotype-specific antibodies in black. **(B)** Differentiation of hASCs to adipogenic lineages. hASCs at confluence were treated with growth medium (-) or adipogenic differentiation medium (+). After 10 days, lipid droplets were visualized by Oil Red-O staining, and the phase contrast images were photographed by a digital camera equipped in an inverted microscope. **(C)** Differentiation of hASCs to osteogenic lineages. hASCs at confluence were treated with growth medium or osteogenic

differentiation medium. After 14 days, matrix mineralization was determined by Alizarin Red-S staining and photographed by a digital camera. Representative data from three independent experiments are shown.

Supplementary Methods

Induction of Adipogenic Differentiation

For induction of adipogenic differentiation, hASCs were seeded onto 24-well culture plate at a density of 6×10^4 cells/well, cultured for 48 h to confluence in the growth medium, and then treated with adipogenic differentiation medium (10% fetal bovine serum, 1 μM dexamethasone, 0.5 mM 3-isobutyl-1-methylxanthine, 10 μM insulin, and 200 μM indomethacin in α-minimum essential medium) for 10 days. The accumulation of intracellular triglyceride droplets was visualized by Oil Red-O staining and the phase contrast images were photographed by a digital camera equipped in an inverted microscope (Leica DM IRB).

Induction of Osteogenic Differentiation

hASCs were seeded onto 24-well culture plate at a density of 6×10^4 cells/well and cultured for 48 h to confluence in the growth medium. Osteogenic differentiation was induced by exposure of confluent hASCs to osteogenic differentiation medium (10% fetal bovine serum, 0.1 μM dexamethasone, 10 mM β-glycerophosphate, and 50 μM ascorbic acid in α-minimum essential medium) for longer than 3 weeks, and the extracellular matrix calcification was visualized by Alizarin red S staining. Briefly, the cells were washed twice with phosphate-buffered saline and fixed with 4% paraformaldehyde for 30 min. The fixed cells were incubated with 2% Alizarin red-S for 10 min with shaking. To minimize nonspecific staining, the cells were rinsed five times with phosphate buffered saline.