

**Supplementary Fig. S1** Three-lineage differentiation of O-ASC.

Cells were induced to differentiate as described with dexamethasone, indomethacin, and insulin for adipogenic induction; with ascorbic acid,  $\beta$ -glycerophosphate, and dexamethasone for osteogenic induction; and with insulin, ascorbic acid, and TGF- $\beta$  for chondrogenic induction. Differentiated cells were stained as follows: oil red O (adipognesis), Alizarin Red S (osteogenesis) and Toluidin blue (chondrogenesis). Insets show immunofluorescence analysis of paraffin sections of chondrogenesis induction pellets with anti-collagen II antibodies (red); nuclear counter-staining is in blue.