

SUPPLEMENTAL METHODS

Confirmation of A-MSCs

A-MSCs derived from the adipose tissue of GFP transgenic pigs were cultured in adipogenic, osteogenic, and chondrogenic induction media for three weeks. Tissue-specific staining, including Oil Red O, Alizarin Red S, and Alcian blue staining, was performed to assess adipocyte, osteocyte, and chondrocyte differentiation, respectively [16]. Additionally, the expression levels of tissue-specific genes, such as PPARG/LDLR for adipocytes, Sox9/ACAN for chondrocytes, and RUNX2/ALPL for osteocytes, were analyzed using quantitative real-time PCR.