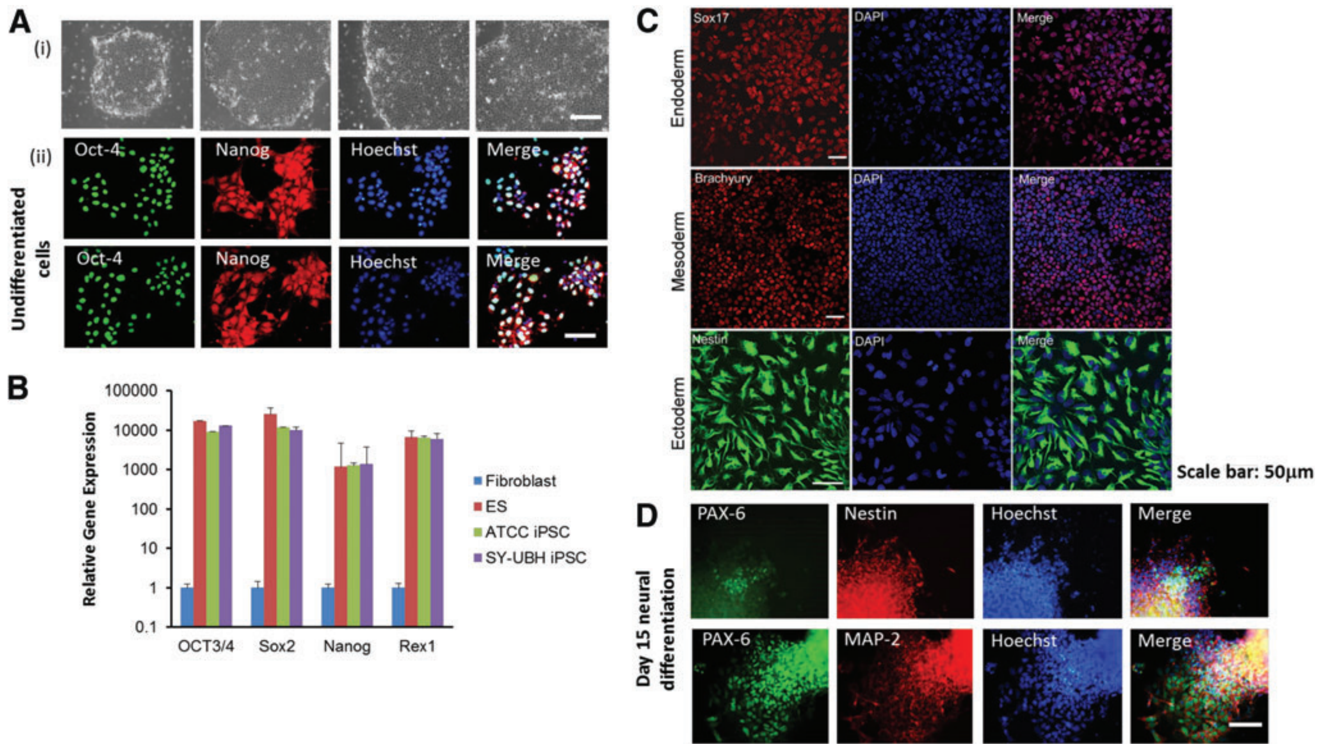
Supplementary Data



SUPPLEMENTARY FIG. S1. Pluripotent and neural marker expression for SY-UBH cells. **(A) (i)** Representative phase contrast images of undifferentiated colonies; **(ii)** representative fluorescent images of pluripotent markers: Oct-4 and Nanog. The undifferentiated SY-UBH cells were maintained in mTeSR medium for proliferation. The day 7 samples were harvested and replated on Geltrex-coated plate. After 3 days, cells were stained with Oct-4 and Nanog. *Green*: Oct-4, *red*: Nanog, *blue*: Hoechst 33342. Scale bar: 100 µm. **(B)** RT-PCR analysis for stem cell markers of *Oct-3/4*, *Sox2*, *Nanog*, and *Rex1*; RNA was extracted from SY-UBH fibroblast, a human ES cell line (HUES2, Harvard Stem Cell Science) and a commercial iPSC line (ATCC ACS-1019). The expression of the endogenous pluripotent markers *Oct-3/4*, *Sox2*, *Nanog*, and *REX1* at the mRNA level increased in SY-UBH iPSC lines compared to fibroblasts when analyzed by RT-PCR, comparable to those from human ES cells and the ATCC iPSC line. **(C)** Fluorescent images of three-germ layer markers. SY-UBH iPSCs were differentiated *in vitro* into endodermal, mesodermal, and ectodermal cell types, which were confirmed by immunostaining for Sox17 (endoderm marker), Brachyury (mesoderm marker), and Nestin (ectoderm marker), respectively. **(D)** Representative fluorescent images of neural markers: PAX6, Nestin, and MAP2. For neural differentiation, the SY-UBH cells were maintained in suspension to form cell aggregates. The neural differentiation was first induced by dual SMAD inhibitors (100 nM LDN193189 and 10 µM SB431542) for 8 days and then patterned by the inhibition of sonic hedgehog signaling with cyclopamine for another 7 days. The day 15 samples were collected and replated on Geltrex-coated plate. After 3 days, the samples were stained with neural markers. Scale bar: 100 µm. iPSC, induced pluripotent stem cell; RT-PCR, reverse transcription–polymerase chain reaction.