



Supplementary information, Figure S5. Analysis of engraftments generated by hESC-derived SUSD2-enriched cells. Section immunostaining of 19-week engraftments derived from hESCs cultures showed SUSD2-enriched cells can differentiate into all five kinds of hormone-producing cells, including INS, GCG, SST, GHRELIN and PPY-producing cells(A-D, indicated as “SUSD2⁺”). The derived INS-producing cells expressed high level of PDX1 proteins, key marker of mature beta cells. Only a portion of the derived hormones producing cells were beta cells, implying only a portion of the *in vitro*-derived endocrine progenitor and early endocrine cells were predetermined for beta cell identity. In the SUSD2-negatively-enriched cell-derived engraftment (indicated as “SUSD2⁻”), plenty of duct like structures were observed and the majority of cells are actually hormone negative cells. As pancreatic progenitors were enriched in this fraction, hormone positive cells were also observed. The scale bar represents 50 μ m. Abbreviations: INS (INSULIN); CHGA (CHROMOGRANIN A); GCG (GLUCAGON); SST (SOMATOSTATIN).