**Supplementary Fig. 1** Characterization of undifferentiated ES Cells. Undifferentiated ESCs formed a compact colony $a_1$ and showed a high nuclear to cytoplasmic ratio $a_2$. Strong red signals seen in all colonies of ESCs following AP staining ($b_1-b_2$). The pluripotency markers were shown by immune labelling against SSEA1 ($c_1$), NANOG ($c_2$), SOX2 ($c_3$), OCT4 ($c_4$) was positive. Nuclei were labelled with DAPI (blue). Scale bars: 100 µm ($a_1, b_1, c_2, c_3$ and $c_4$); 50 µm ($b_2$ and $c_1$), 20 µm ($a_2$).

**Supplementary Fig. 2** Characterization of mouse islets after isolation. The intact form of the islets was observed to be preserved under stereo microscope $a$. DTZ staining in red color indicated the specificity of isolated islets $b$. Following FDA/PI staining, the dead cells were stained in red color and the live cells stained in green $c$. Scale bars: 200 µm ($a_1$ and $c_1$), 100 µm ($b_1$ and $c_2$), 50 µm ($a_2$ and $b_2$).