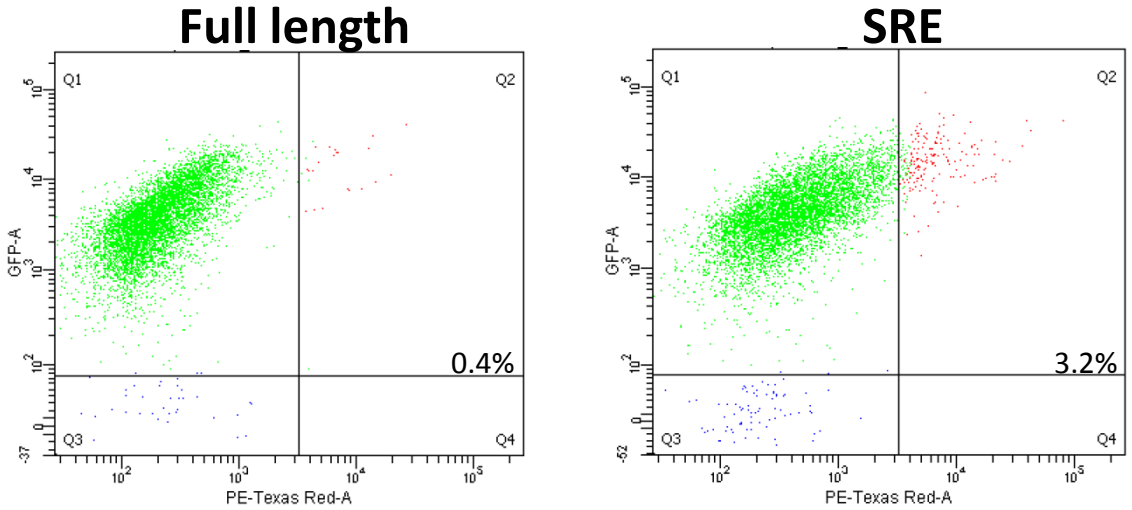
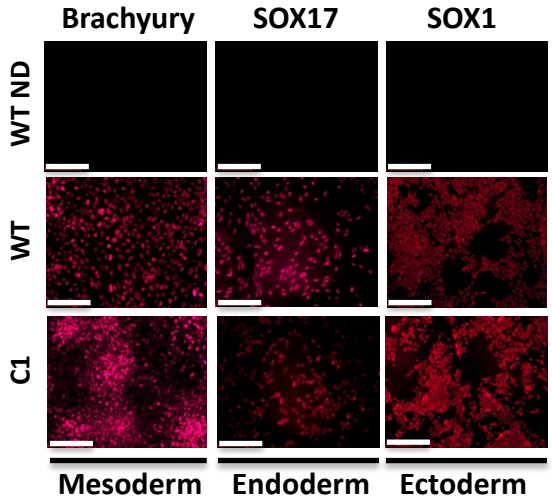
Figure S1. Comparing $OCT4_{SRE}$ activity with that of the full length OCT4 promoter.



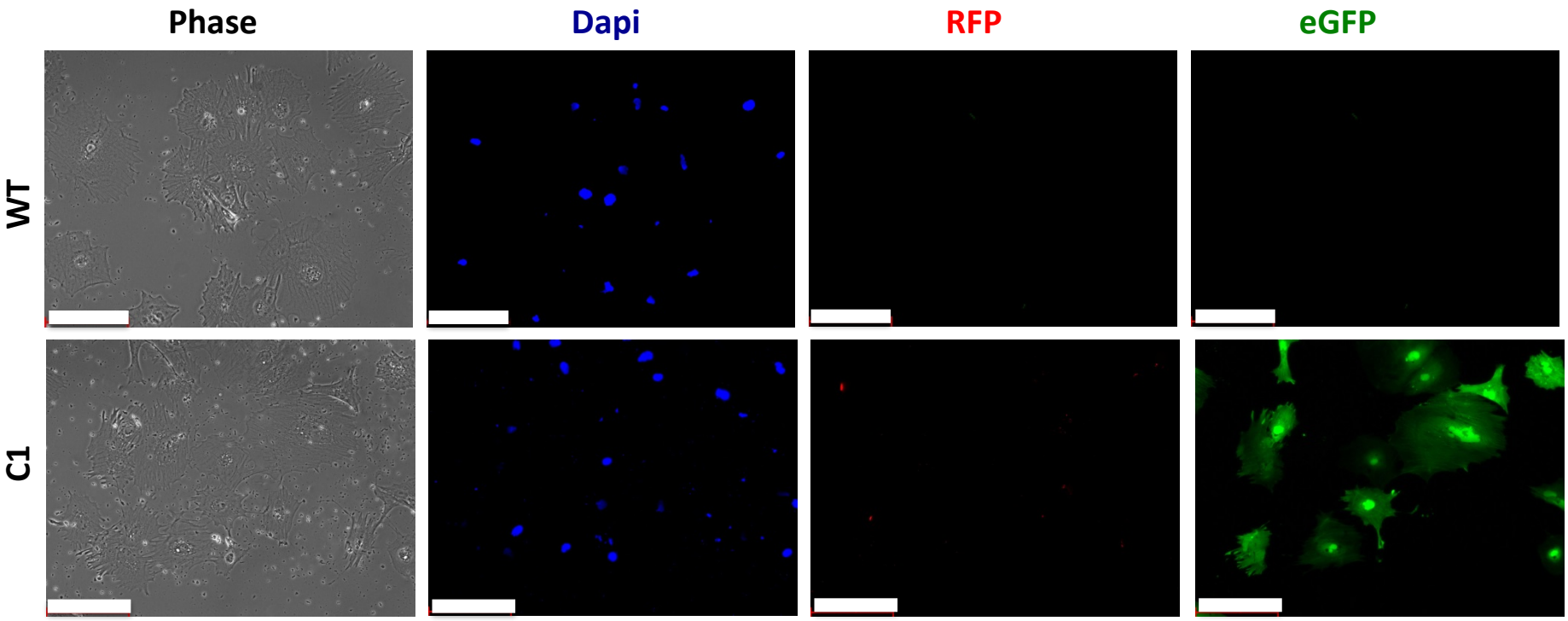
Flow cytometry was utilized to compare the number of double positive fibroblasts from the $OCT4_{SRE}$ with that of the full length OCT4 promoter.

Figure S2. Immunophenotyping for *in vitro* tri-lineage differentiation



Immunophenotyping for *in vitro* tri-lineage differentiation where mesoderm = brachyury, endoderm = SRY (sex determining region Y)-box 17) (Sox17) and, ectoderm = SRY (sex determining region Y)-box 1) (Sox1) expression. Cell types of image from top to bottom are: AD2 hiPSC wild type not differentiated (WT ND), AD2 hiPSC wild type (WT), AD2 hiPSC C1 expressing Stb/eGFP (C1). For (A) and (B) monocolor camera with pseudocolor pink for Cy5:Alexa647 secondary staining was used. (Bar = 200 μm)

Figure S3. Differentiation leads to $OCT4_{SRE}$ inactivation.



^{High}35% Stb/eGFP-double positive fraction post-2x FACS SORT was collected for AD2 hiPSC C1 and converted to DCM conditions. ICC staining of one week DCM-treated derivatives are shown where blue = Dapi, RFP = Stb expression driven by $OCT4_{SRE}$, eGFP = EF1α-eGFP. The cells are AD2 hiPSC wild type (WT) and AD2 hiPSC clone 1 (C1). Clone 1 is expressing only eGFP with $OCT4_{SRE}$-mediated Stb transcription inactivated. (Bar = 200 μm)