



Supplementary Figure 1: Immunocytochemistry identifies trans-differentiated cells from MEF and TTF cells. (A) AFP, GFAP and Pax6 positive cells in the 6TCF treated MEF on Day 12. (B) MAP2 positive round colonies from 6TCF treated MEFs; large areas of Tuj1 positive colonies and pigmented cell colony in the SGCF treated MEFs; and large areas of contracting colony in the SGF treated MEFs. (C) Control MEFs on Day 12 show no a-Actinin, E-cadherin or Cebpa staining but weak and sparse Tuj1 staining. (D) a-Actinin and Tuj1 positive cells in the 6TCF treated TTF cells on Day 16. (E) Representative traces of whole-cell current in voltage-clamp mode for trans-differentiated neurons. (F) Two pictures taken with a 0.2 second interval showing spontaneous contraction of iMT cardiac myocytes. (G) ANF-GFP is highly specific to mouse embryonic heart at E13.5. (H) BioGPS analysis showing that ANF expression is specific to heart tissue. (I) Representative pictures of GFAP-GFP MEF after 9 passages.