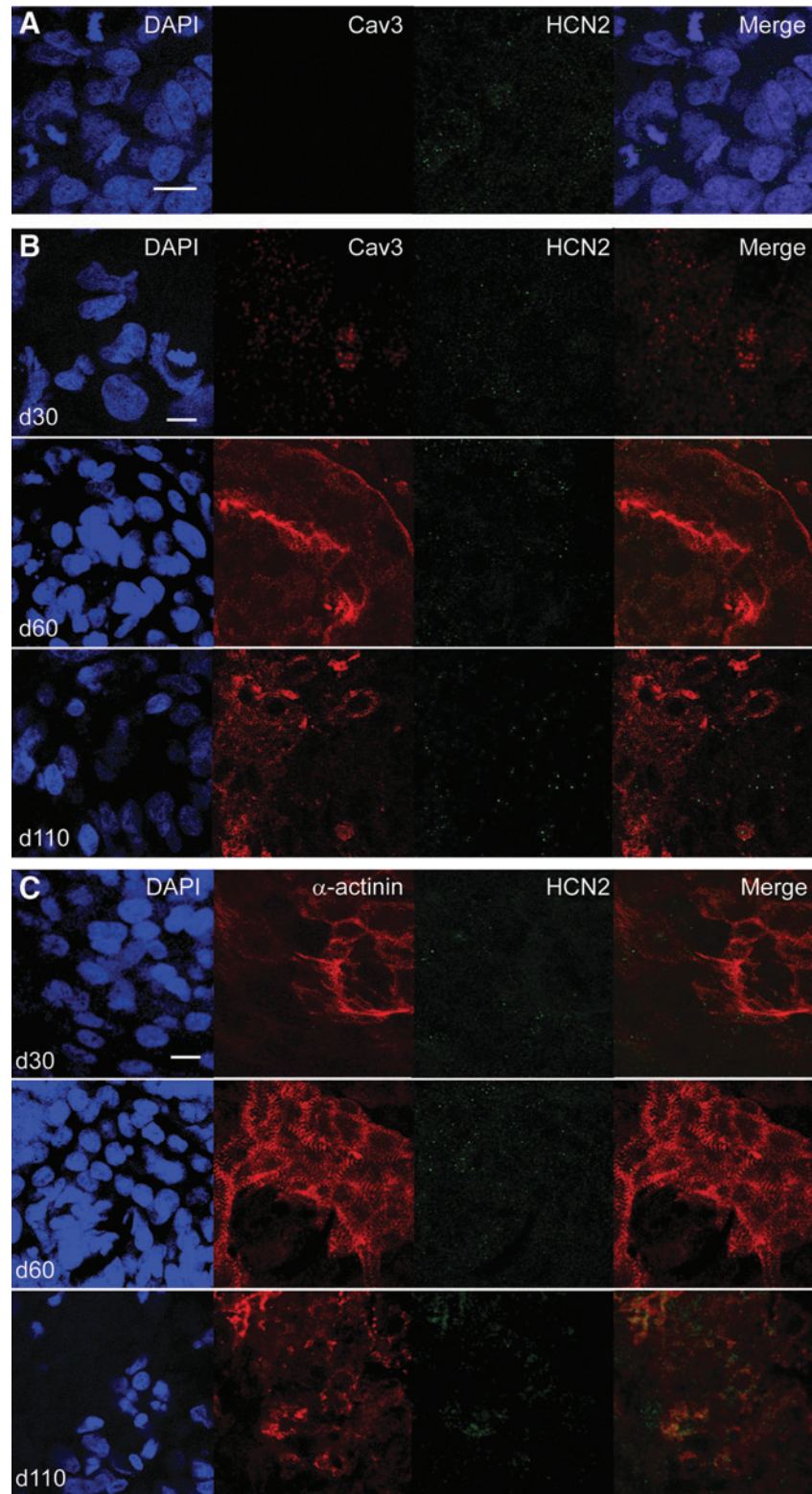
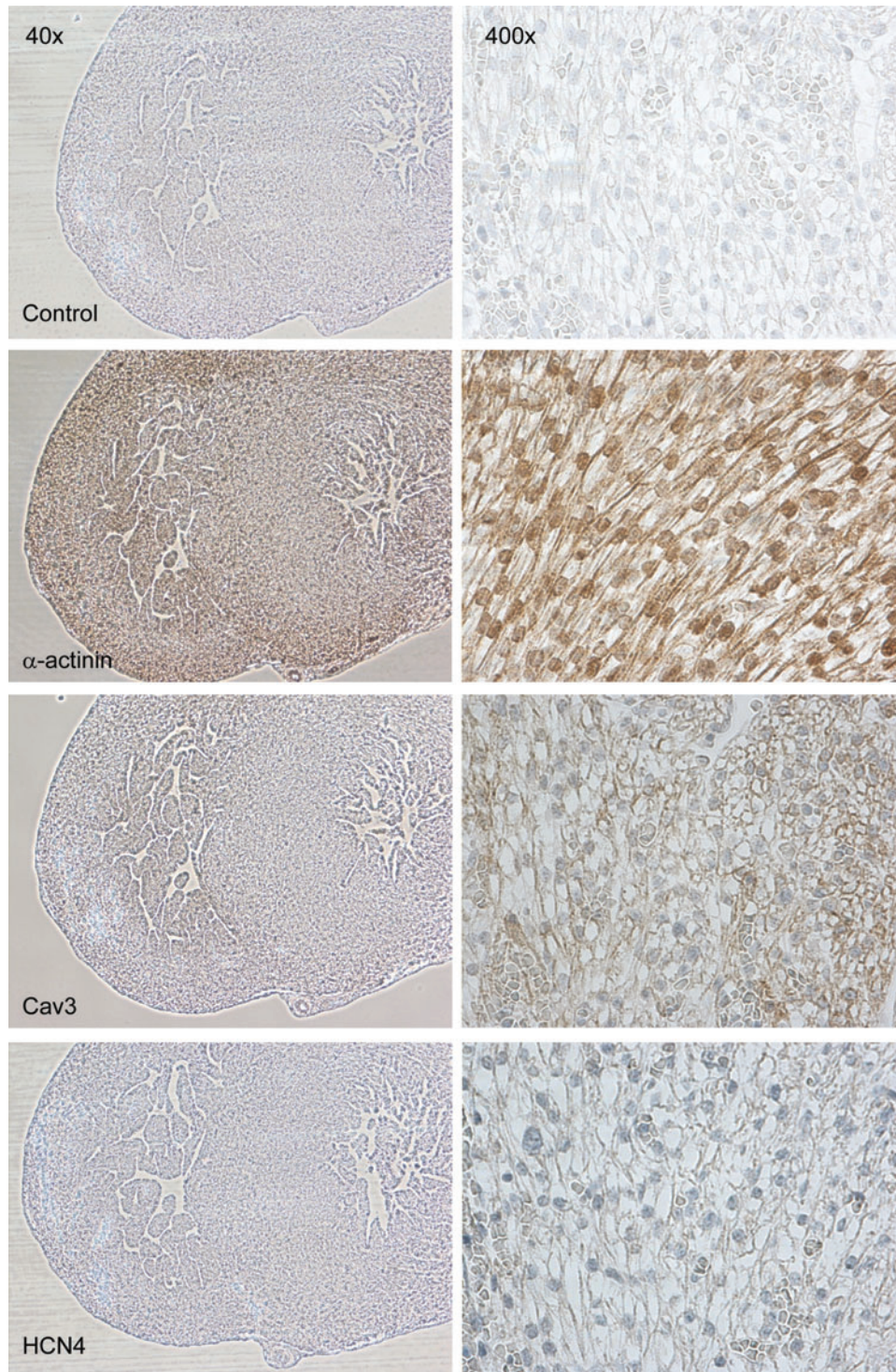


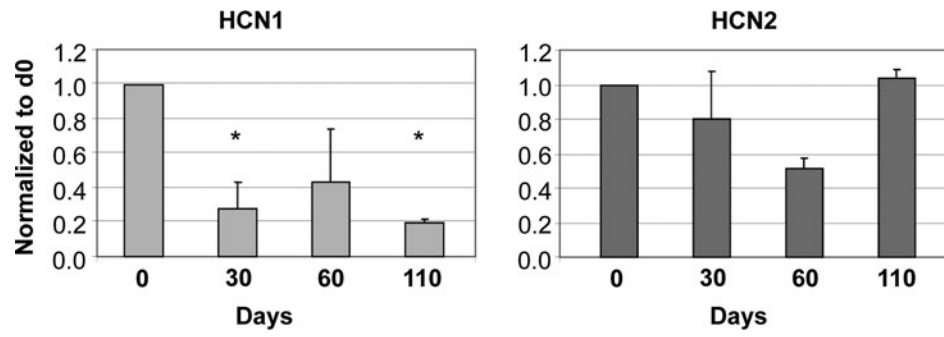
Supplementary Data



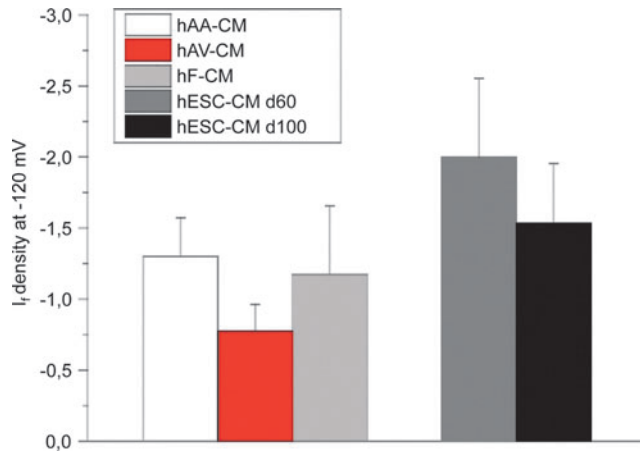
SUPPLEMENTARY FIG. S1. Expression of Caveolin-3 (Cav3) and hyperpolarization-activated cyclic nucleotide-gated channel (HCN2) in undifferentiated human embryonic stem cells (hESC) and Cav3, HCN2 and α -actinin in d30, d60, and d110 hESC-cardiomyocytes (CM). **(A)** Undifferentiated hESC expressing HCN2 (*green*), but not Cav3; **(B)** Cav3 and HCN2 double staining in hESC-CM; **(C)** α -actinin and HCN2 double staining in hESC-CM. Scale bar = 10 μ m.



SUPPLEMENTARY FIG. S2. Immunohistochemical (IHC) staining of whole human fetal (hF) heart (~12 weeks) for α -actinin, Cav3, and HCN4.



SUPPLEMENTARY FIG. S3. Developmental analysis of HCN1 and HCN2 expression during hESC differentiation by real time PCR (* $P < 0.05$).



SUPPLEMENTARY FIG. S4. I_f current density of each cardiomyocyte type. Bar graph shows mean current density (\pm SEM) of f-current measured at -120 mV in human adult atrial (hAA-CM, *white bar*), ventricular (hAV-CM, *red bar*), fetal (hF-CM, *light gray bar*), and hESC-CM (hESC-CM d60, *gray bar* and hESC-CM d100, *black bar*).