Functional expression and pharmaceutical efficacy of cardiac-specific ion channels in human embryonic stem cell-derived cardiomyocytes

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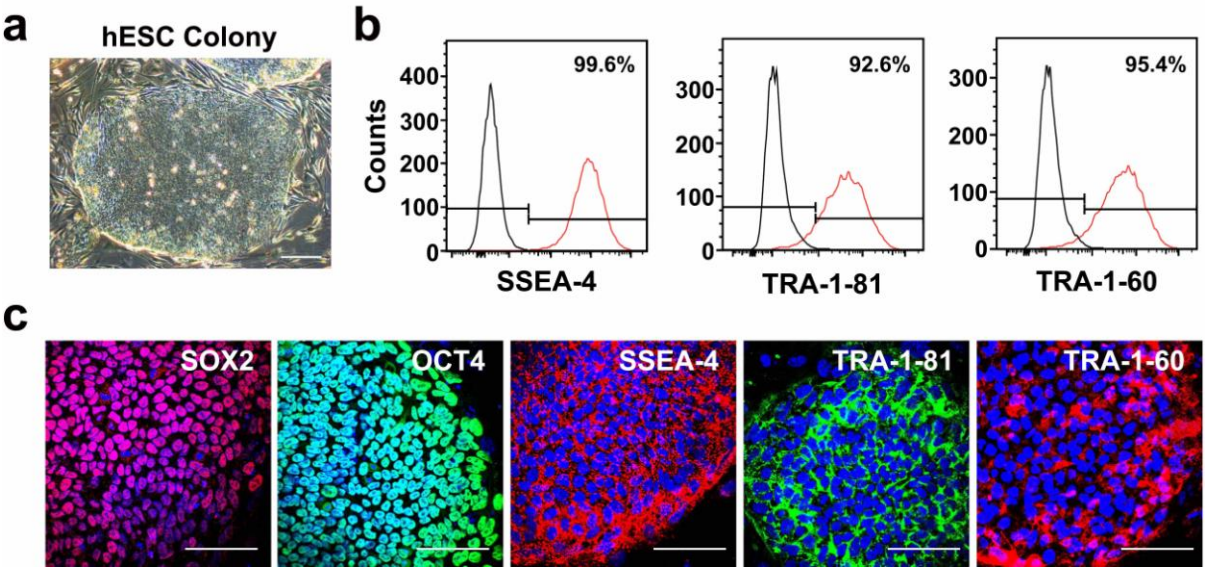
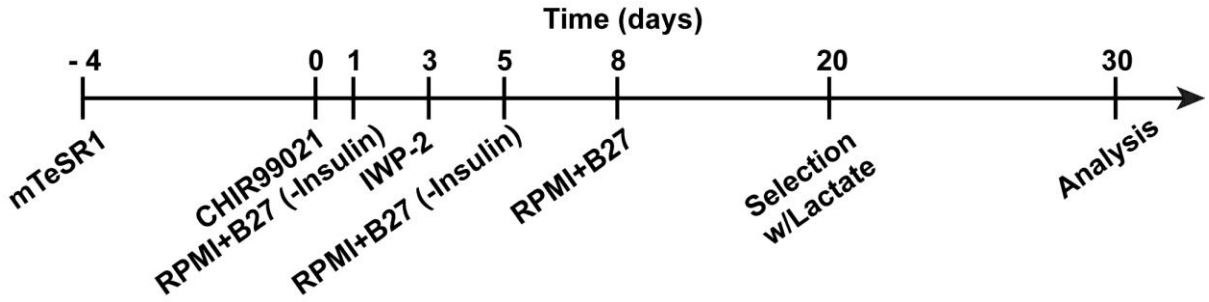


Supplementary Figure S1. Characterization of pluripotency in hESCs. (a) Phase bright image of hESC colony morphoplogy at day5. (b) Flowcytometry analysis of expression of SSEA-4, TRA-1-60, and TRA-1-81 was performed on hESCs. (c) Immunfluorescent staining for expression of SOX2(red), OCT4(green), SSEA-4(red), TRA-1-81(green), and TRA-1-60(red) was performed on undifferentiated hESCs. Nuclie were stained with DAPI and merge images are shown. Abbreviation; hESCs(human embryonic stem cells) (a) Scale bar=200μm. (c) Scale bar=100μm.



Supplementary Figure S2. Schematic presentation of differentiation protocol for H9 hESCs to cardiomyocytes. H9 cells were dissociated to single cell and cultured on Matrigel-coated plate at day -4.

Supplementary Table S1. The primer sequences for RT-PCR

Primer	Sequence
GATA4	F : CAG GCG TTG CAC AGA TAG TG R : CCC GAC ACC CCA ATC TC
GATA6	F : TGT AGA GCC CAT CTT GAC CC R : TCC CCC ACA ACA CAA CCT AC
cTnT	F : AAG ATC AGC TGA GGG AGA AG R : GGT CTT GGA GAC TTT CTG GT
OCT4	F : ACG ACC ATC TGC CGC TTT GAG R : GCC TCT CAC TCG GTT CTG AT
NANOG	F : CAA AGG CAA ACA ACC CAC TT R :TCT GCT GGA GGC TGA GGT AT
$Ca_v1.1$	F : AAC GCC AAG AGG AGT ATT ATG R : ATGGCTGTTGCTATGGTTGC
$Ca_v1.2$	F : CTG CAG GTG ATG ATG AGG TC R : GCGGTGTTGTTGGCGTTGTT
$Ca_v3.1$	F : GAA GTG CTA CAG GGT GGA GGC R : CCA GGT CTG CTG GGT CAG AGG
GAPDH	F : GGA GCC AAA AGG GTC ATC AT R : GTG ATG GCA TGG ACT GTG GT

Supplementary Table S2. The primer sequences for Quantitative RT-PCR(q-PCR)

Primer	Sequence
α-MHC	F : TGT GGT GCC TCG TTC CA R : TTT CGG AGG TAC TGG GCT G
β-MHC	F : GCA TTC TCC TGC TGT TTC CTT R: TGG ATT CTC AAA CGT GTC TAG TGA
$Na_v1.5$	F : TGT ATG TCC TCA GTC CCT TC R : CTT GAC CAG AGA CTC AAA GG
$K_v11.1$	F : AGT GAC CGT GAG ATC ATA GC R : GAG TAG GGT GTG AAG ACA GC
GAPDH	F : GGA GCC AAA AGG GTC ATC AT R : GTG ATG GCA TGG ACT GTG GT