Cardiomyocyte subtype differentiation

Subtype differentation	Cellular model	Pluripotency media	Differentiation format	Differentiation protocol, growth factors, small molecules, and media by day of protocol	Efficiency	Reference
Atrial	hESCs	MEF-CM	Monolayer	d0–d2: BMP4, FGF2; d1–d3: Activin A; d3–d7: Noggin; d5–d8: retinoic acid, DKK1; d8–d12: DKK1; d0–d12: RPMI+B27	50% TNNT2+	Zhang et al., 2011
	hESCs	BPEL	EB	d0–d3: Activin A, BMP4, stem cell factor, VEGFA, CHIR99021; d4–d7: retinoic acid; d0–d12: BPEL	50% NKX2-5+	Devalla et al., 2015
	hESC, hiPSC	StemPro-34	EB	d1–d3: Activin A, BMP4, FGF2; d3–d5: retinol, IWP-2, VEGFA; d5–d12: VEGFA; d0–d12: StemPro-34, L-glutamine, ascorbic acid, transferrin, 1TG, hypoxia	85% TNNT2+	Lee et al., 2017
	iPSC	E8 /Stem MACS iPS-Brew XF /Stem Flex	Monolayer	d0–d2: CHIR99021; d2–d3: IWP-2; d3–d4: IWP-2, retinoic acid; d4–d5: retinoic acid; d0–d8: RPMI, ascorbic acid 2-phosphate, recombinant HSA; d8–d12: RPMI+B27	87% TNNT2+	Kleinsorge et al., 2020
Nodal	hESC, hiPSC	StemPro-34	EB	d0–d2: BMP4; d1–d3: Activin A, BMP4, FGF2; d3–d5: BMP4, SB-431542, retinoic acid, IWP-2, VEGFA, PD173074; d5–d12: VEGFA; d0–d12: StemPro-34, L-glutamine, ascorbic acid, transferrin, 1TG, hypoxia	50% TNNT2+ /SHOX2+	Protze et al., 2017
	hESC, hiPSC	hiPSC Medium BioCISO	Monolayer	d0–d1: CHIR99021; d3–d5: IWP-2; d5–d7: BMP4, PD173074, BMS189453; d0–d7: RPMI+B27 without insulin; d7–d12: RPMI+B27	55 % TNNT2+ /NKX2-5-	Liu et al., 2020
	hESC, hiPSC	E8	Monolayer	d0–d1: CHIR99021; d3–d5: IWP-2; d5–d7: CHIR99021; d0–d7: RPMI+B27 without insulin; d7–d12: RPMI+B27	50% TNNT2+ /NKX2-5-	Ren et al., 2019
	hESC, hiPSC	E8	Monolayer	d0–d2: CHIR99021; d3–d5: Wnt-C59; d0–d12: RPMI+B27 without insulin	20-30% TNNT2+ /NKX2-5-	Liang et al., 2020