

Characterization of hPSC

Cell Line Name	CMC-003i-Pdx1.EGFP			
Alternative name	CMC-hiPSC-003(PDX1-GFP)			
Type of Cell Line	hiPSC			
Depositor (Institution)	Korea National Institute of Health			
Passage #	p23*			
Day of Cell Freezing	20221202			
Analysis	Result	Passage #	Day of analysis	
Cell viability	Pass (72.9±2.8%)	p24	20221205	
Cell attachment and colony morphology	Pass	p24	20221211	
Authentication (STR)	Pass	p24	20221209	
Mycoplasma test (PCR)	Pass	p24	20221213	
Viral contamination test	Pass	p24	20221208	
Karyotype (G-banding)	46,XY	p24	20221220	
CNV analysis	Not-detected	p20	20221114	
Stem Cell Marker Expression				
· AP staining	Pass (Positive)	p21	20120927	
· ICC	Pass (Positive)	p23	20221228	
· qRT-PCR	Pass (Positive)	p21	20221031	
Differentiation Marker Expression				
· EB 형성	Pass (EB14d)	p22	20221031	
· qRT-PCR	양성	p25	20221114	
HLA Genotype	HLA-A *33:03 *33:03 HLA-B *44:03 *44:03 HLA-DRB1 *13:02 *13:02	p12	20180724	
ABO Genotype	AO	p8	20180713	

* Freezing media: Stem-cellbanker (Zenoaq)

Cell Culture Condition

- Feeder/matrix · Vitronectin (Gibco, A14700)
- Media · TeSR-E8(Stem Cell Technol, ST05940)
- Passage (Cell dissociation) · EDTA/Gentle Cell Dissociation Reagent (Stem cell Technol, 07174)

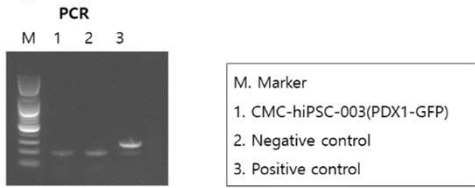
Genetic modification

- Parental Cell · CMC-hiPSC-003 (Catholic University of Korea)
- Reprogramming · Sendai virus (CytoTune-iPS Reprogramming kit, Invitrogen)
- OCT3/4, SOX2, KLF4, c-MYC
- Genetic modification · CRISPR/Cas9 knock-in
- PDX1 C-terminal EGFP tagging

Reference

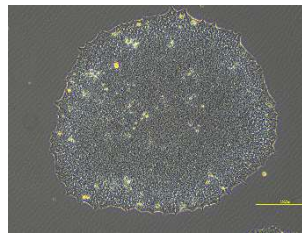
Lee Y, Generation of a PDX1-EFGP reporter human induced pluripotent stem cell line, KSCBi005-A-3, using CRISPR/Cas9 system. Stem Cell Res 2019 Dec;41:101632.

Mycoplasma contamination test

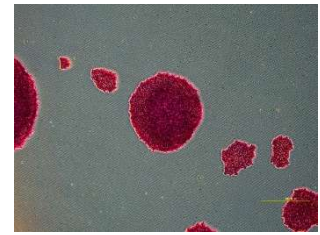


결과: Pass

Cell Morphology



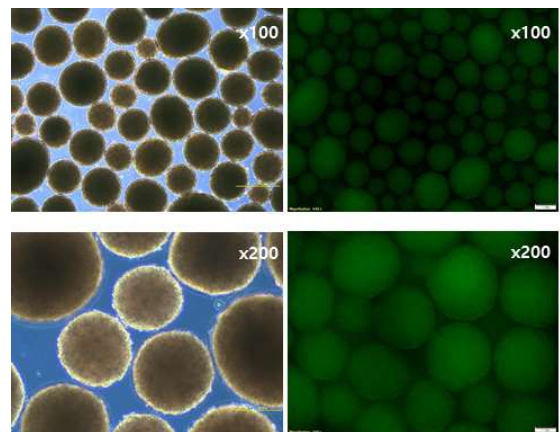
AP staining



Viral contamination test

Differentiation marker gene expression

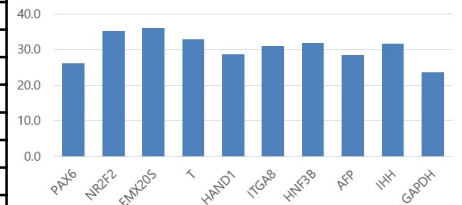
<EB formation and GFP expression>



Karyotype

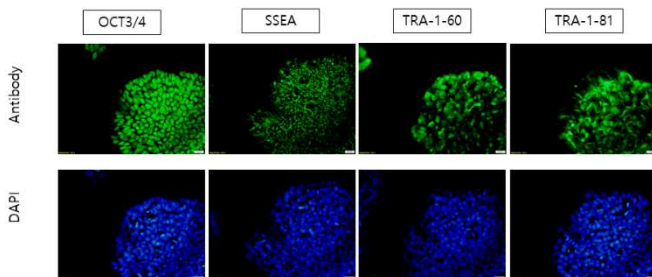
<qRT-PCR, EB 14d>

유전자	결과 (Ct Mean)
PAX6	26.160
NR2F2	35.240
EMX20S	36.051
T	32.961
HAND1	28.575
ITGA8	30.933
HNF3B	31.712
AFP	28.430
IHH	31.582
GAPDH	23.519



Stem cell marker gene expression

<ICC>



<qRT-PCR>

유전자	결과 (Ct Mean)
NANOG	22.469
OCT4	26.362
SOX2	25.823
TERT	27.930
TDGF1	22.271
DNMT3B	22.742
GABRB3	24.089
GDF3	25.690
REX1	26.266
GAPDH	20.282

