

줄기세포주 특성분석 결과보고서

Cell Line Name	LQT08-hiPSC		
Alternative name	KSCBi015-A, DPHCi01, 01_P_CMC-SiPS1		
Type of Cell Line	hiPSC		
Depositor (Institution)	Korea National Institute of Health		
Passage #	p15*		
Day of Cell Freezing	20180906		
Analysis	Result	Passage #	Day of analysis
Cell viability	Pass($89.6 \pm 1.5\%$)	p15	20191011
Authentication (STR)	Pass	p16	20191017
Mycoplasma test (PCR)	Pass	p16	20191017
Cell attachment and colony morphology	Pass	p13	20190304
Microbial test (Viral, bacterial, and fungal contamination)	Pass	p16	20191106
Karyotype (G-banding)	46,XX	p16	20191029
Stem Cell Marker Expression			
· AP staining	Pass (positive)	p13	20190308
· ICC	Pass (positive)	p13	20190313
· qRT-PCR	Pass (positive)	P14	20190315
Differentiation Marker Expression			
· EB formation	Pass (EB14d)	p13	20190318
· qRT-PCR	Pass (positive)	P13	20190328
Disease related mutation	KCNQ1 (c.569G>A)	p6	20210609

Cell Culture Condition

- Feeder/matrix Vitronectin (Gibco, A14700)
 - Media TeSR-E8 (Stem Cell Technol, ST05940) (계대 배양 시 Y27632 사용)
 - Passage (Cell dissociation) EDTA/Gentle Cell Dissociation Reagent (Stem cell Technol, 07174)

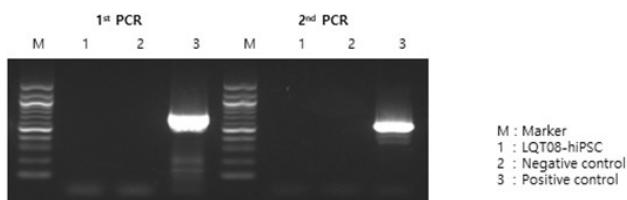
Description of the hPSC

	(Source cell) Peripheral Blood Mononuclear Cell
Parental Cell	<u>Disease information</u> - long QT syndrome type 1, heterozygote mutation in the KCNQ1 gene.
Reprogram	<ul style="list-style-type: none">Sendai virus (CytoTune-iPS Reprogramming kit, Invitrogen)OCT3/4, SOX2, KLF4, c-MYC

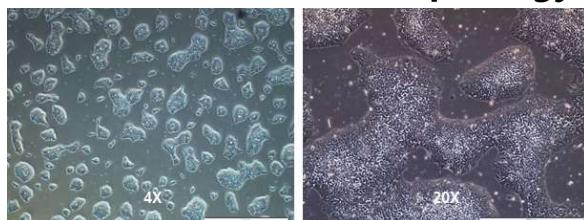
Reference

Lee Y et al. Establishment of a human induced pluripotent stem cell line, KSCBi015-A, from a long QT syndrome type 2 patient harboring a KCNH2 mutation. Stem Cell Res. 2021 Oct 13;57:102570.

Mycoplasma contamination test

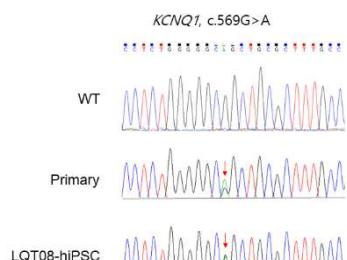


Cell attachment & Morphology

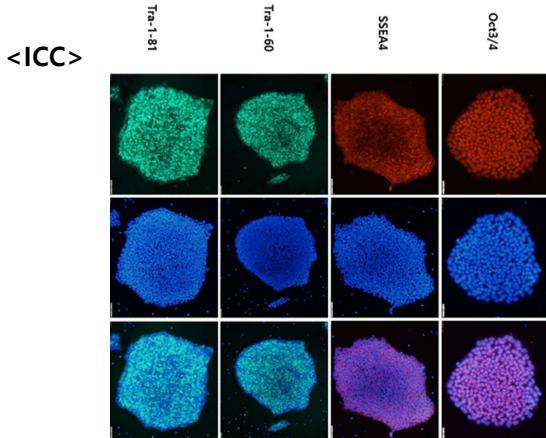


Microbial contamination test

Mutation analysis (Sanger sequencing)

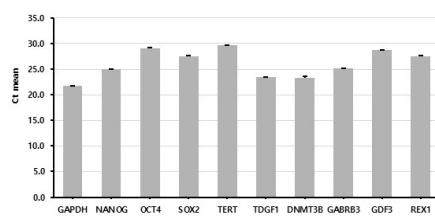


Stem cell marker gene expression

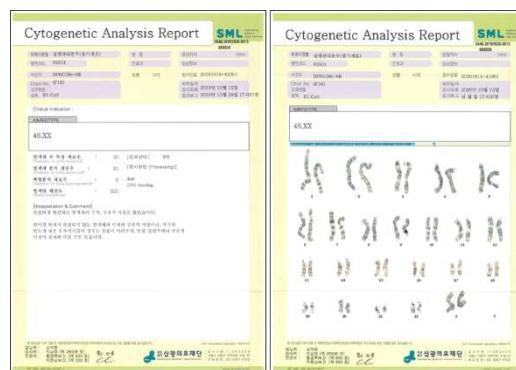


<qRT-PCR>

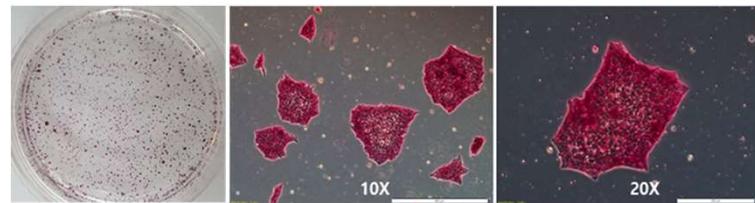
유전자	결과(CT mean)
NANOG	24.987
OCT4	29.120
SOX2	27.565
TERT	29.631
TDGF1	23.460
DNMT3B	23.351
GABRB3	25.111
GDF3	28.681
REX1	27.467
GAPDH	21.694



Karyotype

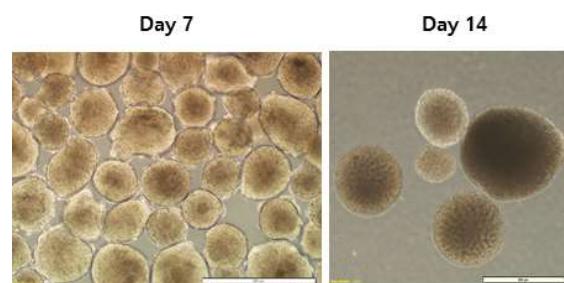


AP staining

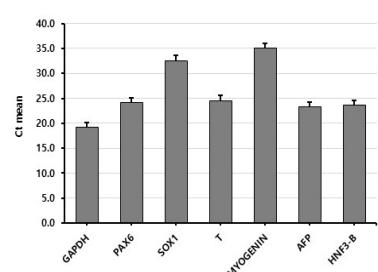


Differentiation

<EB formation>



<qRT-PCR>



Gene	CT mean
PAX6	24.129
SOX1	32.585
T	24.533
MYOGENIN	35.031
AFP	23.246
HNF3-B	23.618