Characterization of hPSC

Cell Line Name	**hFSiPS1_DUSP6KO**
Type of Cell Line	**hiPSC**
Depositor (Institution)	**Korea National Institute of Health**
Passage #	**p60**
Day of Cell Freezing	**20220510**

Analysis	Result	Passage #	Day of analysis
Cell viability	Pass(71.1%)	p61	20221031
Authentication (STR)	Pass	p60	20221125
Mycoplasma test (PCR)	Pass	p61	20221103
Cell attachment and colony morphology	Pass	p61	20221031
Microbial test (Viral, bacterial, and fungal contamination)	Pass	p50	20221125
Karyotype (G-banding)	46,XY	p60	20221121
HLA genotype	HLA-A *02:07 *24:02 HLA-B *13:02 *35:01 HLA-DRB1 *01:01 *07:01	p65	20220531
ABO genotype	AA	p65	20220526
CNV	Gain (20q11.21)x4	p65	20220610
Stem Cell Marker Expression			
· AP staining	Pass (positive)	p65	20220602
· ICC	Pass (positive)	p65	20220712
· qRT-PCR	Pass (positive)	p65	20220608
Differentiation Marker Expression			
· EB formation	Pass (EB14d)	p65	20220530
· qRT-PCR	Pass (positive)	p65	20220608

* Freezing media : Stem-cellbanker (Zenoaq #BLC-3-1)

Cell Culture Condition

· Feeder material	· Vitronectin (Gibco, A14700)
· Media	· TeSR-E8(Stem Cell Technol, ST05940)
· Passage(Cell dissociation)	· EDTA

Cell Line Information

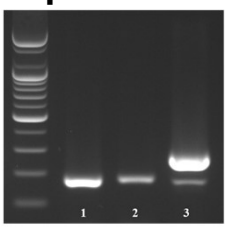
· Parental Cell	· hFSiPS1 (Korea National Institute of Health) human dermal fibroblast
· Reprogramming	· Method : Sendai virus (CytoTune-iPS Reprogramming kit, Invitrogen) · Induction Genes : OCT3/4, SOX2, KLF4, c-MYC

Specification

· Genetic modification	· CRISPR/Cas9 knock-out
· Deleted gene	· DUSP6

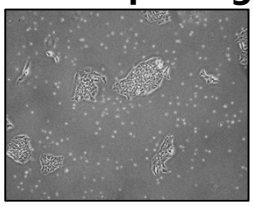
Reference
Yoo DH et al. DUSP6 is a memory retention feedback regulator of ERK signaling for cellular resilience of human pluripotent stem cells in response to dissociation. Sci Rep. 2023 Apr 7;13(1):5683

Mycoplasma test

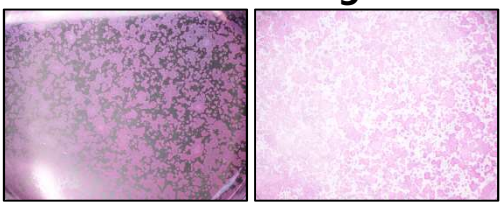


1. Negative control
2. hFSiPS1_DUSP6KO(출고)
3. Positive control

Cell morphology

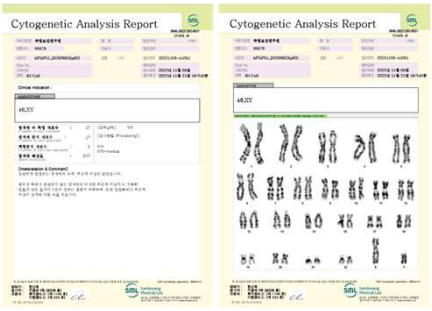


AP staining

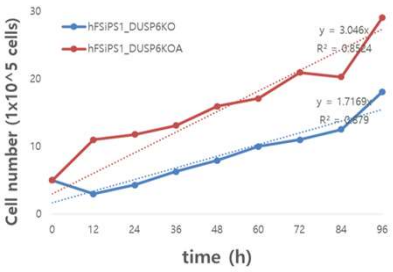


Microbial contamination test

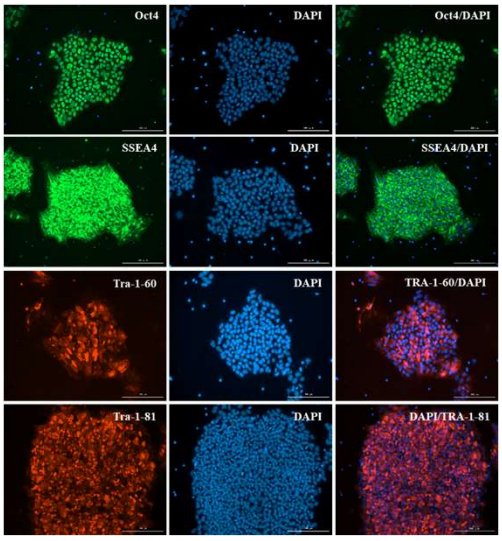
Karyotype



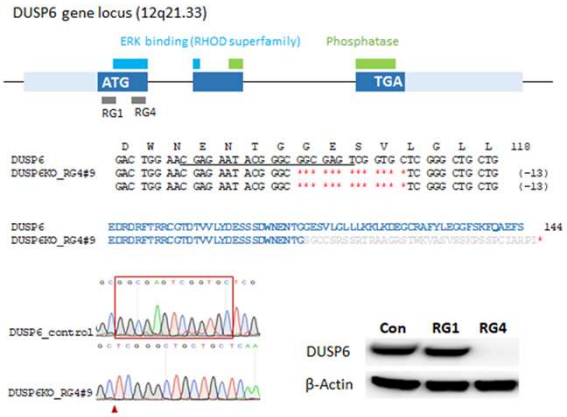
Cell growth



Stem cell marker gene expression <ICC>

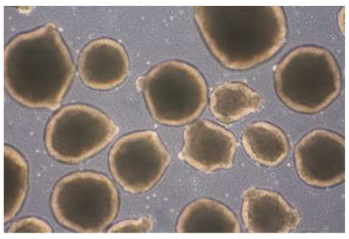


Gene knock out

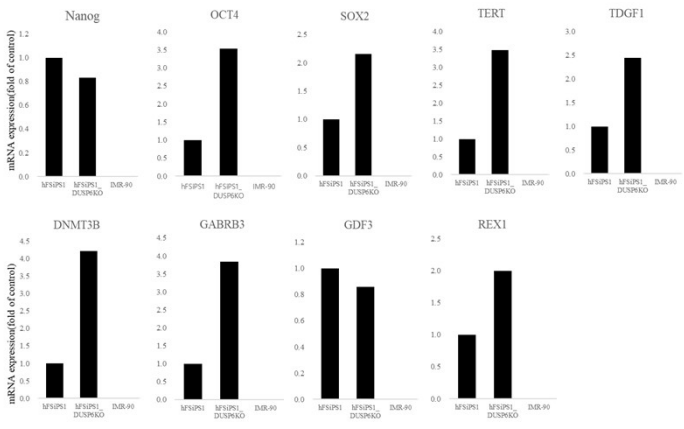


EB formation

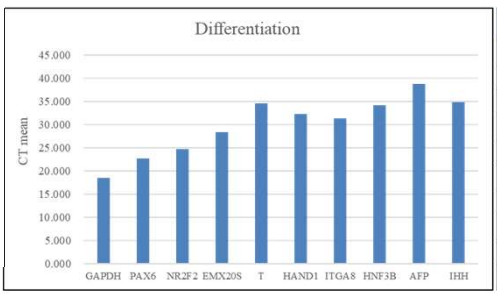
<EB14d>



Stem cell marker gene expression <qRT-PCR>



Differentiation marker gene expression <qRT-PCR>



Gene	Ct mean
GAPDH	18.5
PAX6	22.7
NR2F2	24.7
EMX20S	28.4
T	34.6
HAND1	32.2
ITGA8	31.3
HNF3B	34.1
AFP	38.8
IHH	34.8