

# Characterization of hPSC

<b>Cell Line Name</b>	<b>hiPSC-TLR8KO-A10</b>		
Alternative name	CMC-hiPSC-003(TLR8KO-A10)		
<b>Type of Cell Line</b>	<b>hiPSC</b>		
<b>Depositor (Institution)</b>	<b>Korea National Institute of Health</b>		
<b>Passage #</b>	<b>p39*</b>		
<b>Day of Cell Freezing</b>	<b>20200627*</b>		
Analysis	Result	Passage #	Day of analysis
Cell viability	Pass(80.2±0.9%)	p39	20200916
Authentication (STR)	Pass	p39	20210608
Mycoplasma test (PCR)	Pass	p39	20200922
Cell attachment and colony morphology	Pass	p39	20211001
Bacterial, and fungal contamination test	Pass	p39	20200908
Viral contamination test	Pass	p39	20200904
Karyotype (G-banding)	46,XY	p39	20200915
Stem Cell Marker Expression			
· AP staining	Pass (positive)	p31	20181026
· ICC	Pass (positive)	p31	20180719
· qRT-PCR	Pass (positive)	p31	20181109
Differentiation Marker Expression			
· EB fomatation	Pass (EB14d)	p31	20181109
· qRT-PCR	Pass (positive)	p31	20181109
· Hematopoietic/ macrophage lineage	Pass (positive)	p36	20190528

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

## Cell Culture Condition

- Feeder(matrix) : - Vitronectin (Gibco, A14700)
- Media : - Essential 8 (Gibco, ThermoFisher, A1517001)  
- Clone R (Stem Cell Technol., CAT#05888) or Y27632, at thawing
- Passage (Cell dissociation) - EDTA or Gentle Cell Dissociation Reagent (Stem cell Technol, 07174)  
- EZPassage (Thermo-Fisher 23181010)

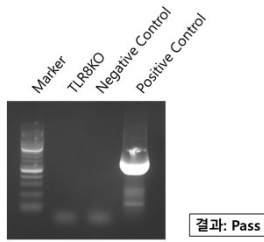
## Genetic Modification

- Parental Cell - CMC-hiPSC-003(Catholic University of Korea)
- Genetic modification - CRISPR/Cas9, TLR8 knock-out

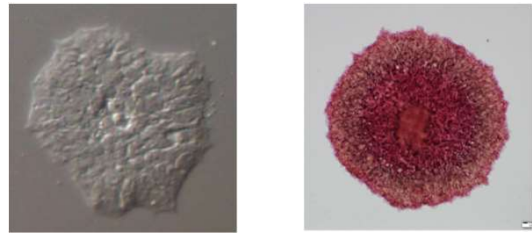
## Reference

Han HJ et al., Generation of a KSCBi005-A-5(TLR8KO-A10) homozygous knockout human induced pluripotent stem cell line using CRISPR/Cas9., Stem Cell Res. 2019 Oct;40:101561. doi: 10.1016/j.scr.2019.101561.

### Mycoplasma contamination test

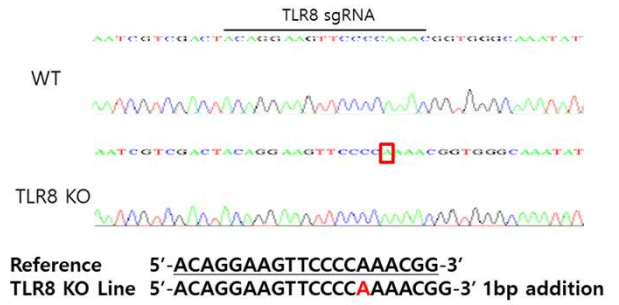


### Cell Morphology AP staining



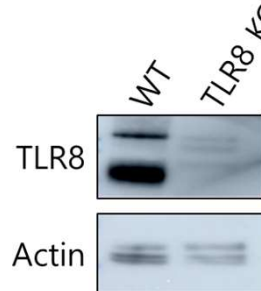
### Microbial contamination test

### TLR3 Knock-out (Sequencing)



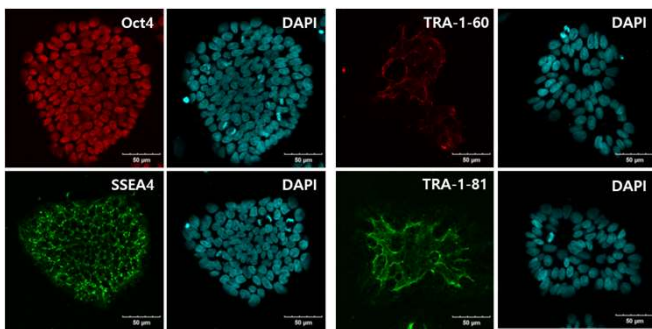
### Karyotype

### TLR8 Expression in hematopoietic cells (macrophage)



### Stem cell marker gene expression

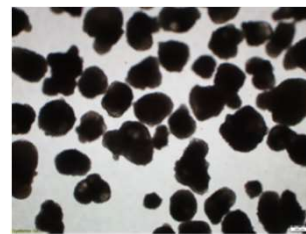
<ICC>>



### Differentiation

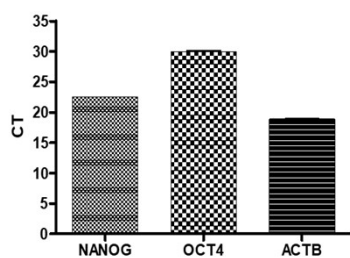
<EB formation>

EB 14 day



<qRT-PCR>

유전자	결과 (CT mean)
NANOG	22.53
OCT4	29.97
ACTB	18.88



<qRT-PCR>

유전자	결과 (CT mean)
ACTB	18.25
PAX6	25.80
SOX17	23.72
AFP	31.17
T	28.25
HAND1	21.31

