



BIOMEDICUM
STEM CELL CENTER

IPS cell certification

Date: Sep 19, 2024

Cell Line: HEL356 clones HEL356.1 and HEL356.2

iPSC induction: Date of induction 19.02.2024. Fibroblasts were reprogramed using the CRISPRa method (PMID: 35063129)

Cell line origin: 95 cd8

Investigator: Tapanainen Juha/Khatun Masuma

Culture Description: The iPSC lines were reprogrammed and cultured under feeder-free conditions. They were passaged using 0.5 mM EDTA on Matrigel-coated plates and maintained in E8 medium for over 10 passages.

Characterization:

- i) iPSC morphology assessment: Monitoring typical iPSC colony morphology.
- ii) Culture maintenance: Assessing the stability and survival of iPSC clones over ten passages.
- iii) RT-PCR: Used to confirm the removal of transgene vectors.
- iv) Mycoplasma test: Used to confirm the absence of mycoplasma.

Results:

- i) All iPSC lines maintained typical human pluripotent stem cell morphology during extended culture.
- ii) All clones survived and retained their morphological characteristics over multiple passages.
- iii) Both HEL356 clones (HEL356.1 and HEL356.2) tested negative for the episomal vector.
- iv) Mycoplasma test was negative for all lines.

Interpretation:

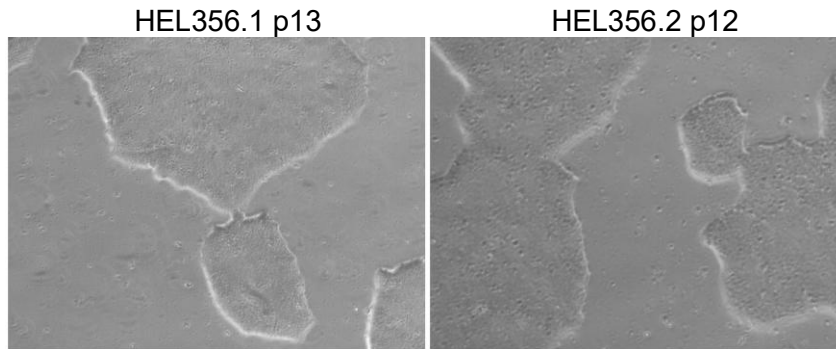
Based on the analysis, both HEL356 clones (HEL356.1 and HEL356.2) meet the common criteria for iPSCs.

Recommendations:

- Use a Rho-kinase inhibitor (Y-27632) 24 hours after thawing to enhance cell survival.
- Fingerprinting has not been performed; it is important to match the produced iPSC lines to their corresponding donor cell lines.
- It is advisable to analyze the karyotype of the iPSC lines before using them in any experiments.
- Ensure compliance with the ISSCR Guidelines for Stem Cell Research and Clinical Translation ([ISSCR Guidelines](#)) for required characterizations, including morphology assessment, pluripotency verification, and genetic stability.

Contacts: Diego Balboa (diego.balboa@helsinki.fi)
Ras Trokovic (ras.trokovic@helsinki.fi)

A) Morphology assessment



B) OriP RT-PCR

