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# Product Information

**Human iPS Cell Line (Alzheimer's Disease Patient, PSEN2, N141I, HET)**

| | | | |
|---|---|---|---|
| Catalog Number | 30HU-008 | Cell Number | ~0.5-1.0 million cells/vial |
| Species | *Homo sapiens* | Storage Temperature | Liquid nitrogen |

## Product Description

Alzheimer's disease (AD) is a progressive neurodegenerative disease. AD patients suffer from slow deterioration of memory and cognitive functions, which may eventually lead to death. AD is the most common form of dementia and it is estimated that more than 6 million American are living with AD in 2019. The genetic causes are largely unknown in sporadic AD (sAD) while few genetic aberrations have been identified in familiar AD (fAD). However, no effective treatments have been developed to slow down or change the disease course.

**iXCells Biotechnologies** have generated human induced pluripotent stem cells (hiPSCs) derived from a patient with familiar Alzheimer's disease (fAD). These iPS cells are established from a single clone and expanded in feeder-free conditions. The Certificate of Analysis (COA) is provided for each cell lot purchased. The cells have been fully characterized for their self-renewal and pluripotent markers (**Figure 1**). All the cells provided by iXCells Biotechnologies are negative for mycoplasma, bacteria, yeast, and fungi. HIV-1, hepatitis B and hepatitis C. Recently, hiPSCs have been shown to serve as a versatile tool to investigate and model various diseases including AD and other neurodegenerative diseases. Therefore, our hiPSCs carrying fAD mutation (PSEN2 N141I) will meet the clients' need to study the molecular basis of AD progression and further to develop potential therapeutic approaches.

Normal human iPS cell lines are available as separate products (Cat# 30HU-002). In addition, we provide human iPSC lines derived from individuals diagnosed with various diseases including Parkinson's Disease (PD) (Cat# 30HU-003), Amyotrophic Lateral Sclerosis (ALS) (Cat# 30HU-004), and Type 2 Diabetes (T2D) (Cat# 30HU-005). More disease-associated human iPS cell lines are under

development. We also provide custom iPSC generation, gene editing and iPSC direct differentiation services to meet your needs.

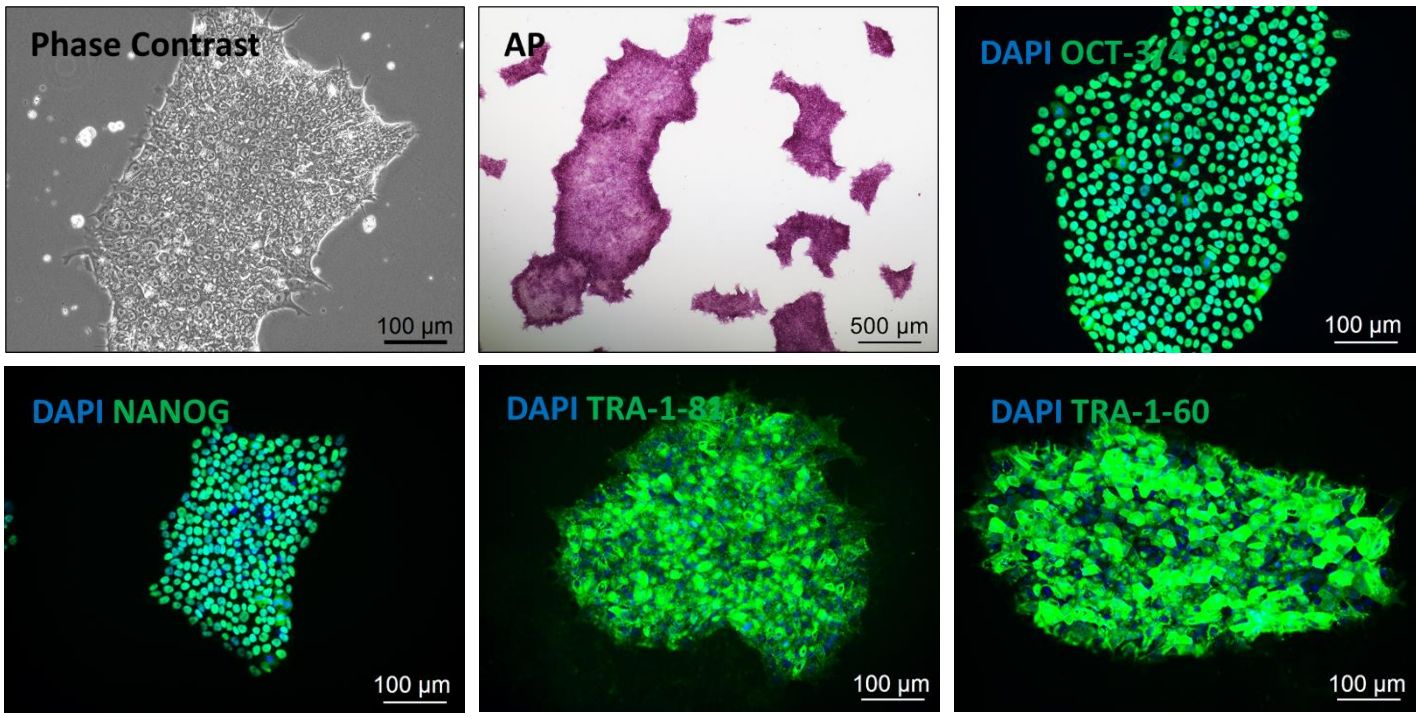


**Figure 1. Characterization of human AD iPSC.** Our human AD hiPSCs show typical human embryonic stem cell morphology (**Phase Contrast**) and strong alkaline phosphatase activity (**AP**). These cells also obtain strong self-renewal and pluripotent markers (OCT-3/4, NANOG, TRA-1-81, and TRA-1-60). Cell nuclei were stained with DAPI. Scale bars are depicted in each panel.

## Product Details

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|---|---|
| **Tissue Origin** | Human iPS Cells derived from dermal fibroblasts of one AD patient. The patient was diagnosed with TYPE 4 AD with a heterozygous N141I mutation in PSEN2 gene. |
| **Package Size** | ~0.5-1.0 million cells/vial |
| **Shipped** | Cryopreserved |
| **Storage** | Liquid nitrogen |
| **Growth Properties** | Adherent |
| **Media** | Human iPSC Growth Medium (Cat # MD-0018)<br>Human iPSC Feeder-Free Growth Medium (Cat # MD-0019)<br>Human iPSC Xeno-Free Growth Medium (Cat # MD-0074)<br>iMEF Feeder (CF1), irradiated (Cat # 10MU-001) |

## Protocols

### Thawing of Frozen Cells

1. Upon receipt of the frozen cells, it is recommended to thaw the cells and initiate the culture immediately in order to retain the highest cell viability.
2. Prepare Matrigel™ coated plates (Cat # MD-0023) or MEF feeder (Cat # 10MU-001) coated plates the day before recovering the cells.
3. To thaw the cells, put the vial in 37°C water bath with gentle agitation for ~1 minute. Keep the cap out of water to minimize the risk of contamination.
4. Pipette the cells into a 15ml conical tube with 5ml fresh culture media: Human iPSC Growth Medium (Cat # MD-0018) can be used in on-feeder culture system, Human iPSC Feeder-Free Growth Medium (Cat # MD-0019) can be used in feeder-free culture system.
5. Centrifuge at 50 *x g* for 5 minutes at room temperature.
6. Remove the supernatant and re-suspend the cells in culture media containing 10 µM of Y27632 (MD-0025).
7. Seed the cells on Matrigel™ coated plates (Cat# MD-0023) for feeder-free culture, or on feeder plates for on-feeder culture.
8. Incubate in 37ºC $CO_2$ incubator overnight.

9. The next day, change to media without Y27632.
10. Change media daily until the cells are ready to be passaged. It may take 1-2 weeks to fully recover the cells before passaging.

***Note: It is normal to observe 5-20% differentiated cells after thaw and early passages. The cells will be stabilized after 2-3 passages with careful elimination of differentiated cells by mechanical or enzymatic methods.***

**Safety Precaution:** *it is highly recommended that protective gloves and clothing should be used when handling frozen vials.*