



ATCC at ISSCR - Booth #709

The 11th annual meeting of the International Society for Stem Cell Research (ISSCR) is right around the corner, and ATCC is busy getting ready to head off to Boston. We hope to meet and chat with many of you at our poster and at the ATCC booth #709. As a prelude to the ISSCR meeting, we will be presenting a webinar to demonstrate tips and techniques for getting the best results from your ATCC stem cell cultures; we hope you will join us for this exciting and informative webinar.

ISSCR poster board number: T-2104

Whole exome sequencing reveals 228 conserved mutations in parental and three LRRK2 Parkinson's patient-derived iPSC lines,
Poster Presentation II

Thursday, June 13, 2013, 6:00 - 8:00 PM

Patient-specific induced pluripotent stem cells (iPSCs) provide a unique tool for the study of human diseases such as Parkinson's disease. To provide a better research tool for studying Parkinson's disease, we generated three iPSC lines, from dermal fibroblasts of a 63 year old Caucasian male, diagnosed with Parkinson's disease, by reprogramming with sendai viral, retroviral, or episomal expression of OCT3/4, SOX2, KLF4, and MYC genes. The Parkinson iPSC lines generated with different reprogramming methods all demonstrated similar cell morphology, pluripotent marker expression, and the ability to differentiate into three germ layers. Compared to an hiPSC line-derived from a healthy subject, these Parkinson's iPSC lines showed similar efficiency of neural differentiation into neural progenitors from iPSC-derived embryoid bodies. To more effectively model Parkinson disease, we have sequenced all exons of the three Parkinson iPSC lines along with their parent fibroblast by exome sequencing with an Agilent's SureSelect 51 Mb array. Compared to the hg19 human genome reference, each cell line has over 300 genes with missense mutations and there are 226 genes with missense mutations conserved among all four cell types. More importantly, there are three amino acid changes within the LRRK2 gene, the most common Parkinson's disease-related gene, at positions 50 (R50H), 723 (I723V), and 2397 (M2397T), which have previously been reported in Parkinson's patients. Via integrating and non-integrating reprogramming methods, we have created three fully characterized iPSC lines that carry LRRK2 mutations.

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ATCC Publications

Tips and techniques for culturing stem cells.

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Events and Conferences

ISSCR

Boston, Mass
June 12-15, 2013
Booth #709

Webinar

Excellence in Research Webinar Series

ATCC, your trusted source for cell lines, microbial strains, and other biological reagents, invites you to join us for one of the exciting webinars in our 2013 *Excellence in Research* series.

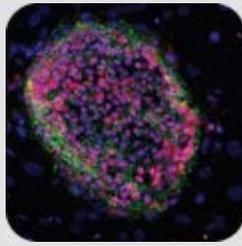
[Register today >>](#)



ATCC Excellence in Research Webinar - Stem Cell Solutions

ATCC is your trusted source for induced pluripotent stem cell (iPSC) technology! This webinar will provide background on the human iPSCs available from ATCC, and introduce the advantages these products. Additionally, we will demonstrate helpful tips and techniques for using the ATCC feeder-free system to thaw, passage and cryopreserve human iPSC cultures.

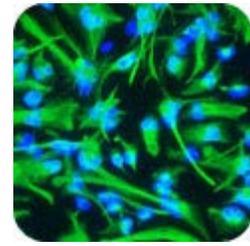
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Design better experiments with ATCC footprint-free iPSC “control” lines.

The new ATCC footprint-free iPSC “control” lines were generated using non-integrating sendai viral vectors to express OCT4, SOX2, KLF4 and MYC in normal human somatic cells. These cell lines are ideally suited to support the study of normal tissue development and differentiation, and as source material for the development of normal iPSC-derived differentiated cells.

- [ATCC® No. ACS-1019™](#) (DYS0100) Foreskin Fibroblasts.
- [ATCC® No. ACS-1020™](#) (HYS0103) Hepatic Fibroblasts.
- [ATCC® No. ACS-1021™](#) (CYS0105) Human Cardiac Fibroblasts



A powerful new tool for Glioma Research: The BT142-Brain Tumor Stem Cell Line

Research into the underlying mechanism of gliomagenesis has been hampered by the lack of a good in vitro disease model. To fill this void ATCC now offers the BT142 Oligoastrocytoma Grade III Cancer Stem Cell line ([ATCC® No. ACS-1018™](#)). This line has lost the wild-type allele of IDH1 and is now homozygous (mut/-) for the endogenous IDH1 mutation (R132H), which results in near wild-type levels of the oncometabolite 2-hydroxyglutarate. A similar phenomenon has been reported in patients carrying the IDH1 mutation, so this new cell line will provide a powerful new model system to help investigators accelerate glioma research and develop novel therapeutic options for this aggressive malignancy.

Image of brain cancer stem cells courtesy of Steven Pollard

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