

START WITH A HIGH-QUALITY iPSC CONTROL LINE

Use SCTi003-A for Standardized Research

Start your research confidently with a reliable source of healthy, high-quality induced pluripotent stem cells (iPSCs) from the SCTi003-A cell line. Derived from peripheral blood mononuclear cells (PBMCs), these iPSCs have been validated with STEMCELL Technologies products for various applications, such as culture scale-up or differentiation to multiple cell types in both 2D and organoid models. Keep reading to learn more about the SCTi003-A cell line and related products you can use to establish a complete workflow for your cell culture system.

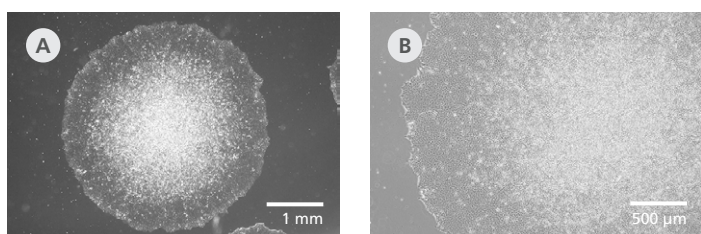


Figure 1. SCTi003-A Human Pluripotent Stem Cells Demonstrate High-Quality Morphology in Routine Culture

Cryopreserved cells from line SCTi003-A were thawed and maintained in mTeSR™ Plus on Corning® Matrigel® Matrix. (A) The resulting iPSC colonies have densely packed cells and show multi-layering when ready to be passaged. (B) Cells retain prominent nucleoli and high nuclear-to-cytoplasmic ratios.

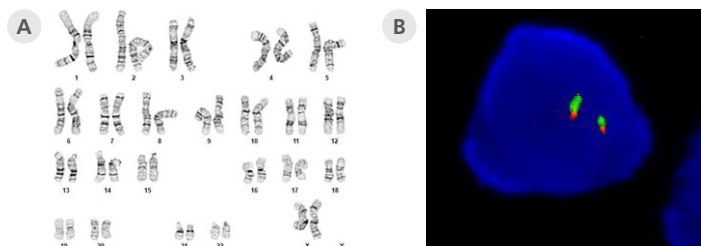


Figure 2. SCTi003-A Human Pluripotent Stem Cells Maintain a Normal Karyotype

(A) G-TL banding for thawed cells at p26 ($n = 20$) shows a normal karyotype with no evidence of clonal abnormalities at a band resolution of 450 - 550 G-bands per haploid genome. (B) Fluorescent in situ hybridization in a representative p26 iPSC using probes for 20p11 (green) and 20q11.21 (red). 94% of cells examined displayed two sets of two probe signals, indicating no aneuploidy of chromosome 20 ($n = 200$).

Demographic Information

STEMCELL collects donor demographic information ethically, using consent forms and protocols approved by either an institutional review board (IRB), the Food and Drug Administration (FDA), the U.S. Department of Health and Human Services, and/or an equivalent regulatory authority. Donations are performed in the United States in compliance with applicable federal, state, and local laws, regulations, and guidance.

Why Use SCTi003-A?

ETHICALLY SOURCED. Meet regulatory requirements for academic and/or commercial purposes with human iPSCs collected using IRB protocols.

QUALITY-CONTROLLED. Trust in extensive quality control that meets or exceeds industry standards at every step of the manufacturing process—for reproducible results.

CERTIFIED. Enhance research transparency, and ethical and biological conformity, by using a cell line verified by [hPSCreg®](#).

VALIDATED. Integrate human iPSCs confidently into your research with a cell line that is compatible with TeSR™ media for maintenance and STEMdiff™ for differentiation.

NOTE: For research use or in vitro laboratory-based tissue culture work only. Not approved for application into humans under any circumstances.

Manufactured to Heightened Quality Standards

Extensive quality control procedures are conducted at every stage of the iPSC manufacturing process to ensure cell quality and reproducibility, including assessments for:

- **Cell line identity** by STR analysis
- **Microbiological sterility** by mycoplasma testing, viral screening, and sterility testing
- **Genomic integrity and stability** by residual vector testing, T cell clonality, karyotyping, 20q FISH, SNP microarray, and whole exome sequencing
- **Undifferentiated cell marker expression** by flow cytometry
- **Pluripotency** by in vitro trilineage differentiation

Trilineage Differentiation Capabilities

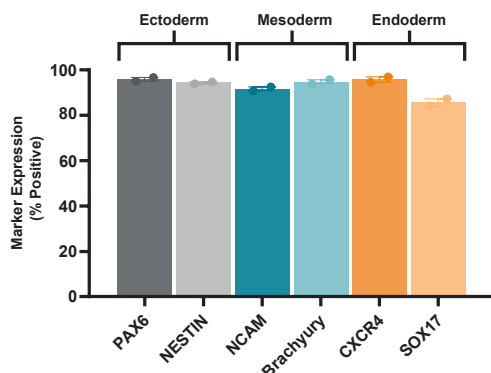


Figure 3. SCTi003-A Human Pluripotent Stem Cells Demonstrate a High Trilineage Differentiation Capacity

Cells from SCTi003-A were split into 3 groups, differentiated using STEMdiff™ Trilineage Differentiation Kit (Catalog #05230), and then subjected to flow cytometry analysis. Two markers for each embryonic germ layer were assessed, and bars represent mean marker expression for each group of cells (n = 2 biological replicates).

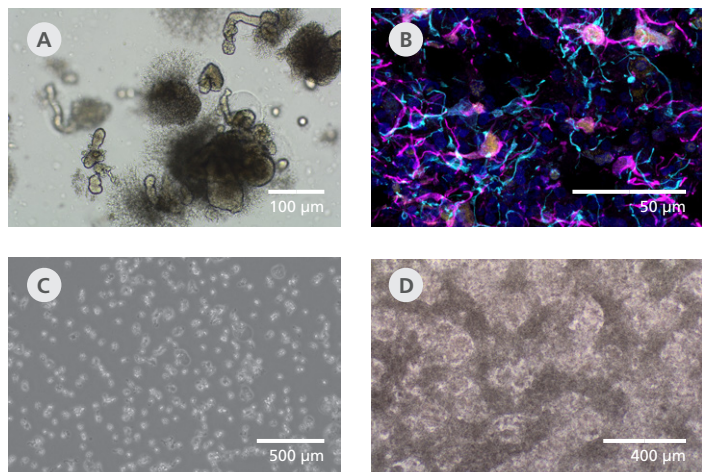


Figure 4. SCTi003-A Human Pluripotent Stem Cells Can Successfully Differentiate into Cell Types from All Three Germ Layers

Line SCTi003-A is validated with a variety of STEMdiff™ Differentiation and Maturation Kits. (A) SCTi003-A iPSCs can be differentiated to intestinal spheroids and embedded in Matrigel® domes for maturation into human intestinal organoids using the STEMdiff™ Intestinal Organoid Kit (Catalog #05140). Maturing organoids (shown at Day 13) can be passaged and expanded using STEMdiff™ Intestinal Organoid Growth Medium (Catalog #05145). (B) Neural Organoids stained for DAPI (blue), MAP2 (magenta), NEUN (yellow), and GFAP (cyan) can be differentiated from SCTi003-A using STEMdiff™ Dorsal Forebrain Organoid Differentiation Kit (Catalog #08620) and maintained with STEMdiff™ Neural Organoid Maintenance Kit (Catalog #100-0120). (C) iPSC-derived microglia with visible processes and small cytoplasmic-to-nuclear ratios can be generated from SCTi003-A iPSCs via a hematopoietic progenitor cell intermediate using the STEMdiff™ Hematopoietic Kit (Catalog #05310), with further differentiation using STEMdiff™ Microglia Differentiation and Maturation Kits (Catalog #100-0019/100-0020). (D) Ventricular cardiomyocytes were generated using STEMdiff™ Ventricular Cardiomyocyte Differentiation Kit (Catalog #05010) to form an iPSC-derived monolayer that exhibits beating behavior.

iPSCdirect™: A Ready-To-Use, Single-Cell Format iPSC Product

Speed up your research with single-cell format iPSCdirect™. These specially cryopreserved iPSCs eliminate the need for developing, maintaining, and characterizing hPSC banks. Derived from the SCTi003-A cell line, iPSCdirect™ has undergone the same rigorous QC procedures. Each vial contains >10 million viable cells, which are immediately ready for use in downstream monolayer applications, such as differentiation using STEMdiff™ media products.

Be among the first to know about this product at www.stemcell.com/ipscdirect

Product Information

Healthy control iPSC line, SCTi003-A, is validated for use with a wide range of products, including those listed here.

For more information on the STEMdiff portfolio, visit www.stemcell.com/stemdiff

Description	Catalog #
Commercially Available iPSCs	
Healthy Control Human iPSC Line, Female, SCTi003-A	200-0511
iPSCdirect™ Healthy Control Human iPSCs, Line SCTi003-A	200-0510
Cell Quality Tools and Reagents	
Anti-Human OCT4 (OCT3) Antibody, Clone 3A2A20	60093
Anti-Human TRA-1-60 Antibody, Clone TRA-1-60R	60064
hPSC Genetic Analysis Kit	07550
Human Pluripotent Stem Cell Trilineage Differentiation qPCR Array	07515
STEMdiff™ Trilineage Differentiation Kit	05230
Cell Culture Tools and Reagents	
mTeSR™ Plus	100-0276
CloneR™2	100-0691
ReLeSR™	05872
PBS-MINI Bioreactor	100-1005
Cell Storage Media and Cell Thawing Instruments*	
CryoStor® CS10	100-1061
ThawSTAR® CFT2 Automated Thawing System	100-0650

*ThawStar® CFT2 is not available for sale in China, Hong Kong, Taiwan, Japan, or South Korea



PRODUCT INFORMATION

Additional data on the SCTi003-A line
www.stemcell.com/scti003-a



RESOURCE

Frequently Asked Questions on iPSCs
www.stemcell.com/ipsc-faq

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