

STANDARDIZE YOUR STEM CELL RESEARCH

Start with a High-Quality iPSC Control Line

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 across multiple lineages and tissue 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.

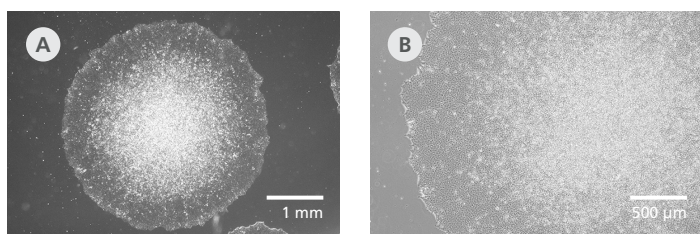


Figure 1. SCTi003-A Human Pluripotent Stem Cells Demonstrate High-Quality Morphology in Routine Culture

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.

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

Why Use SCTi003-A?

ETHICALLY SOURCED. Meet regulatory requirements for academic and/or commercial purposes with ethically sourced human iPSCs collected using Institutional Review Board (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 workflow with a cell line that is compatible with TeSR™ media for maintenance and STEMdiff™ for differentiation.

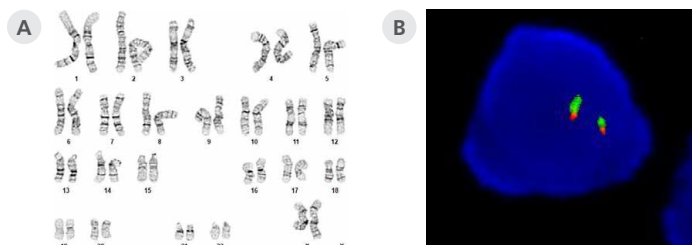


Figure 2. SCTi003-A Human Pluripotent Stem Cells Maintain a Normal Karyotype

(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 aneusomy of chromosome 20 (n = 200).

Demographic Information

STEMCELL collects donor demographic information ethically, using consent forms and protocols approved by either an 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.

Trilineage Differentiation Capabilities

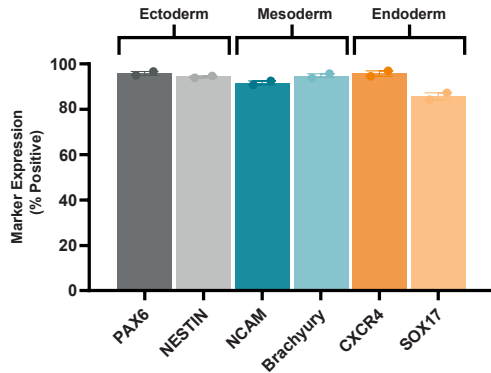


Figure 3. SCTi003-A Human Pluripotent Stem Cells Demonstrate a High Trilineage Differentiation Capacity

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).

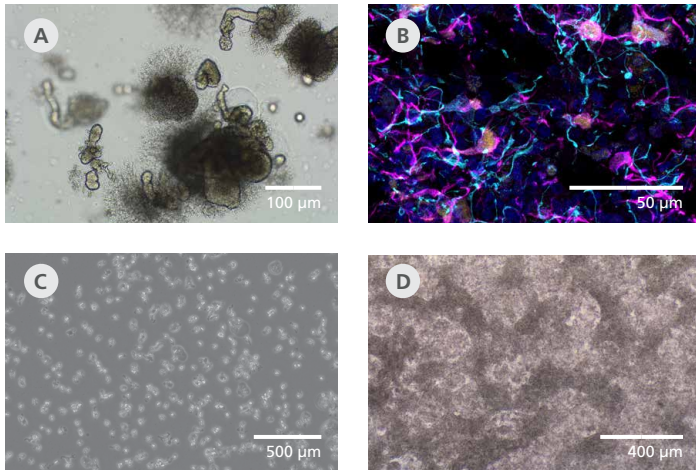


Figure 4. SCTi003-A Human Pluripotent Stem Cells Can Successfully Differentiate into Cell Types from All Three Germ Layers

Line SCTi003-A is validated with a variety of STEMdiff™ Differentiation and Maturation Kits. (A) SCTi003-A iPSCs can be differentiated into 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.

Product Information

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

Description	Catalog #
iPSC Line	
Healthy Control Human iPSC Line, Female, SCTi003-A	200-0511
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
hPSC Differentiation Kits	
STEMdiff™ Dorsal Forebrain Organoid Differentiation Kit	08620
STEMdiff™ Neural Organoid Maintenance Kit	100-0120
STEMdiff™ Hematopoietic Kit	05310
STEMdiff™ Microglia Differentiation Kit	100-0019
STEMdiff™ Microglia Maturation Kit	100-0020
STEMdiff™ Ventricular Cardiomyocyte Differentiation Kit	05010
STEMdiff™ Intestinal Organoid Kit	05140
STEMdiff™ Intestinal Organoid Growth Medium	05145
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

This research-use-only (RUO) product is ethically sourced using approved IRB standards and consented to for both academic and commercial applications. For additional details, including lot-specific and donor information, please refer to the following resources:



PRODUCT INFORMATION

For 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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