



Thaw and Culture Details

Cell Line Name	UCSD225i-NDC1-3
WiCell Lot Number	DB26676
Provider	University of California, San Diego – Laboratory of Dr. Lawrence Goldstein
Banked By	University of California, San Diego – Laboratory of Dr. Lawrence Goldstein
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 5 wells of a 6 well plate using Stem Cell Culture Medium and MEF.
Protocol	WiCell Feeder Dependent Protocol
Culture Platform Prior to Freeze	Feeder Dependent
	Medium: hUES Medium
	Matrix: MEF
Passage Number	p10 These cells were cultured for 9 passages prior to freeze and post reprogramming. The Provider adds +1 to the passage number to best represent the overall passage number of the cells at thaw.
Date Vialled	11-June-2015
Vial Label	iPS NDC1.3 p10 6/11/15 CH thaw in 6 well
Biosafety and Use Information	Appropriate biosafety precautions should be followed when working with these cells. The end user is responsible for ensuring that the cells are handled and stored in an appropriate manner. WiCell is not responsible for damages or injuries that may result from the use of these cells. Cells distributed by WiCell are intended for research purposes only and are not intended for use in humans.

Testing Performed by WiCell

Test Description	Test Provider	Test Method	Test Specification	Result
Karyotype by G-banding	WiCell	SOP-CH-003	Expected karyotype	Pass
Post-Thaw Viable Cell Recovery	WiCell	SOP-CH-305	Recoverable attachment after passage	Pass
Identity by STR	UW Translational Research Initiatives in Pathology Laboratory	PowerPlex 16 HS System by Promega	Defines profile	Pass
Sterility	Biotest Laboratories	ST/07	Negative	Pass
Mycoplasma	WiCell	SOP-QU-004	Negative	Pass



Testing Reported by Provider

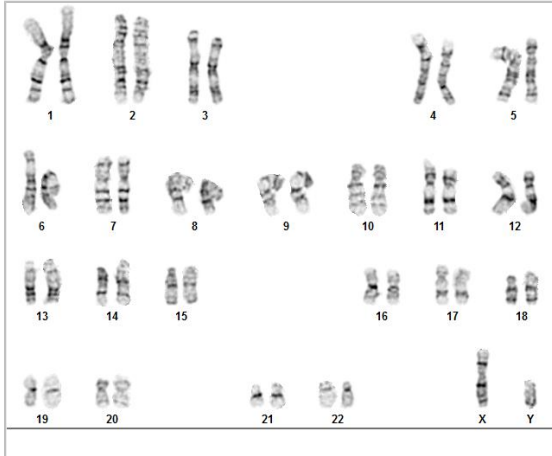
For more information, publication and dbGaP links, where available, are provided on the cell line specific web page on the WiCell website.

Test Description	Method	Result
Genetic Analysis	G-Band Karyotype	Maintained euploid karyotype
Pluripotency	FACS	Expressed the pluripotency-associated proteins NANOG and TRA1-81. See the publication for Mean % TRA1-81.
Teratoma	Injected into nude rats	Differentiated into cells of ectodermal, mesodermal, and endodermal lineages in vitro.

Approval Date	Quality Assurance Approval
30-June-2016	<p style="text-align: right;">8/6/2020</p> <p>X AA</p> <p>AA Quality Assurance Signed by: Armitz, Andy</p>

Date Reported: Wednesday, July 12, 2017
Cell Line: UCSD225i-NDC1-DB26676 12595
Passage#: 10
Date of Sample: 7/3/2017
Specimen: Human IPS
Results: 46,XY

Cell Line Gender: Male
Reason for Testing: lot release testing
Investigator: [REDACTED], WiCell CDM



Cell: 27
Slide: 3
Slide Type: Karyotype
Total Counted: 20
Total Analyzed: 8
Total Karyogrammed: 4
Band Resolution: 450 - 500

Interpretation:

This is a normal karyotype. No clonal abnormalities were detected at the stated band level of resolution.

Completed by: [REDACTED] MS, CG(ASCP)
Reviewed and Interpreted by: [REDACTED] Montgomery, PhD, FACMG
A signed copy of this report is available upon request.

Date: _____ **Sent By:** _____ **Sent To:** _____ **QC Review By:** _____

Limitations: This assay allows for microscopic visualization of numerical and structural chromosome abnormalities. The size of structural abnormality that can be detected is >3-10Mb, dependent upon the G-band resolution obtained from this specimen. For the purposes of this report, band level is defined as the number of G-bands per haploid genome. It is documented here as "band level", i.e., the range of bands determined from the four karyograms in this assay. Detection of heterogeneity of clonal cell populations in this specimen (i.e., mosaicism) is limited by the number of metaphase cells examined, documented here as "# of cells counted".

This assay was conducted solely for listed investigator/institution. The results may not be relied upon by any other party without the prior written consent of the Director of the WiCell Cytogenetics Laboratory. The results of this assay are for research use only. If the results of this assay are to be used for any other purpose, contact the Director of the WiCell Cytogenetics Laboratory.

Unless otherwise mutually agreed in writing, the services provided to you hereunder by WiCell Research Institute, Inc. ("WiCell") are governed solely by WiCell's Terms and Conditions of Service, found at www.wicell.org/privacyandterms. Any terms you may attach to a purchase order or other document that are inconsistent, add to, or conflict with WiCell's Terms and Conditions of Service are null and void and of no legal force or effect.

Short Tandem Repeat Analysis

Department of Pathology and Laboratory Medicine
TRIP Laboratory (Molecular)
<http://www.pathology.wisc.edu/research/trip>

WiCell®
info@wicell.org
(888) 204-1782

Sample Report:

12595-STR
Sample Name on Tube: 12595-STR
30.8 ng/μL, (A260/280=2.49)
Sample Type: Cells
Cell Count: ~2 million cells

Requestor:

WiCell Research Institute
Quality Department

Sample Date: N/A

Receive Date: 07/10/17
Assay Date: 07/18/17
File Name: 170720 STR TCS
Report Date: 07/21/17

STR Locus	STR Genotype Repeat #	STR Genotype
FGA	16-18,18.2,19,19.2,20,20.2,21,21.2,22, 22.2, 23, 23.2, 24, 24.2, 25, 25.2, 26-30, 31.2, 43.2, 44.2,45.2, 46.2	Identifying information has been redacted to protect donor confidentiality. If more information is required, please, contact WiCell's Technical Support .
TPOX	6-13	
D8S1179	7-18	
vWA	10-22	
Amelogenin	X,Y	
Penta_D	2.2, 3.2, 5, 7-17	
CSF1PO	6-15	
D16S539	5, 8-15	
D7S820	6-14	
D13S317	7-15	
D5S818	7-16	
Penta_E	5-24	
D18S51	8-10, 10.2, 11-13, 13.2, 14-27	
D21S11	24,24.2,25,25.2,26-28,28.2,29,29.2, 30, 30.2,31, 31.2,32,32.2,33,33.2, 34,34.2,35,35.2,36-38	
TH01	4-9,9.3,10-11,13.3	
D3S1358	12-20	

Results: Based on the 12595-STR cells submitted by WiCell QA dated and received on 07/10/17, this sample (Label on Tube: 12595-STR) defines the STR profile of the human stem cell line UCSD225i-NDC1-3 comprising 27 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: No STR polymorphisms other than those corresponding to the human UCSD225i-NDC1-3 stem cell line were detected and the concentration of DNA required to achieve an acceptable STR genotype (signal/noise) was equivalent to that required for the standard procedure (~1 ng/amplification reaction) from human genomic DNA. This result suggests that the 12595-STR sample submitted corresponds to the UCSD225i-NDC1-3 stem cell line and was not contaminated with any other human stem cells or a significant amount of mouse feeder layer cells.

Sensitivity: Sensitivity limits for detection of STR polymorphisms unique to either this or other human stem cell lines is ~2-5%.

X_{RMB}

Digitally Signed on 07/21/17

X_{WMR}

Digitally Signed on 07/21/17

TRIP Laboratory, Molecular

PhD, Director / Co-Director
UWHC Molecular Diagnostics Laboratory / UWSMPH TRIP Laboratory

Sterility Report

Biotest Laboratories, Inc.

Making life-saving products possible

WiCell Research Institute, Inc.
WiCell Quality Assurance
504 South Rosa Road, Room 101
Madison, WI 53719

BIOTEST SAMPLE # 16100501

VALIDATION # NG

TEST PURPOSE NG

PRODUCT R366.4 WB47080 11873, MIN08i-33114.B WB47099 11874, WC021i-SMA-GM15 WB47071 11875, WC022i-SMA-GM77 WB47072 11876, WC023i-SMA-GM232 WB47173 11877, UCSD236i-APP1-1 DB26819 11878, UCSD224i-NDC1-2 DB26664 11879, UCSD225i-NDC1-3 DB26676 11880, UCSD227i-NDC2-2 DB26792 11881, UCSD228i-NDC2-3 DB26795 11882

PRODUCT LOT NA

STERILE LOT NA

BI LOT NA

STERILIZATION LOT NA

BI EXPIRATION DATE NA

STERILIZATION DATE NA

DATE RECEIVED 2016-10-06

STERILIZATION METHOD NA

TEST INITIATED 2016-10-21

SAMPLING BLDG / ROOM NA

TEST COMPLETED 2016-11-04

REFERENCE Processed according to LAB-003: Sterility Test Procedure

Ten (10) products were each divided between 40 mL TSB and 40 mL FTG. The samples were then cultured at 20-25 C and 30-35 C respectively and were monitored for a minimum of 14 days.

- USP
- BI Manufacturers Specifications
- Other

RESULTS	# POSITIVES	# TESTED	POSITIVE CONTROL	NEGATIVE CONTROL
Sterile	0	10	NA	2 Negatives

COMMENTS NA

REVIEWED BY Shasad DATE 09NOV16

Specific test results may not be indicative of the characteristics of any other samples from the same lot or similar lots. Liability is limited to the costs of the tests. The uncertainty of measurement associated with the measurement result reported in this certificate is available from the organization upon request.

Biotest Laboratories ■ 9303 West Broadway Ave. ■ Brooklyn Park, MN 55445 ■ USA ■ (763) 315-1200

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Mycoplasma Detection Assay Report

Testing Performed by WiCell

Lot Release Testing

July 6, 2017

FORM SOP-QU-004.01

Version F Edition 02

Reported by: KR

Reviewed by: JB

BD Monolight 180

#	Sample Name	Reading A		A Ave	Reading B		B Ave	Ratio B/A	Result	Comments/Suggestions
		RLU1	RLU2		RLU1	RLU2				
1	UCSD225i-NDC1-3-DB26676 12595	526	530	528	268	259	263.5	0.50	Negative	
2	Positive (+) Control	453	451	452	37998	38147	38073	84.23	Positive	
3	Negative (-) Control	689	716	702.5	102	97	99.5	0.14	Negative	

