Thaw and Culture Details

Cell Line Name	UCSD224i-NDC1-2
WiCell Lot Number	WB66798
Parent Material	UCSD224i-NDC1-2-DB26664
Provider	University of California, San Diego – Laboratory of Dr. Lawrence Goldstein
Banked By	WiCell
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 3 wells of a 6 well plate.
Culture Platform	Feeder Independent
	Medium: mTeSR™1
	Matrix: Matrigel®
Protocol	WiCell Feeder Independent mTeSR™1 Protocol
Passage Number	p14 These cells were cultured for 13 passages prior to freeze and post reprogramming. WiCell adds +1 to the passage number at freeze to best represent what the overall passage number of the cells at thaw. Plated cells at thaw should be labeled passage 14.
Date Vialed	19-April-2018
Vial Label	UCSD224i-NDC1-2 p14 WB66798
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	See Report
Post-Thaw Viable Cell Recovery	WiCell	SOP-CH-305	≥ 15 Undifferentiated Colonies, ≤ 30% Differentiation and recoverable attachment after passage	Pass
Identity by STR	UW Translational Research Initiatives in Pathology Laboratory	PowerPlex 16 HS System by Promega	Consistent with known profile	Pass
Sterility	Steris	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.

The following tests were performed on the cell line. The tests do not apply to any particular lot.

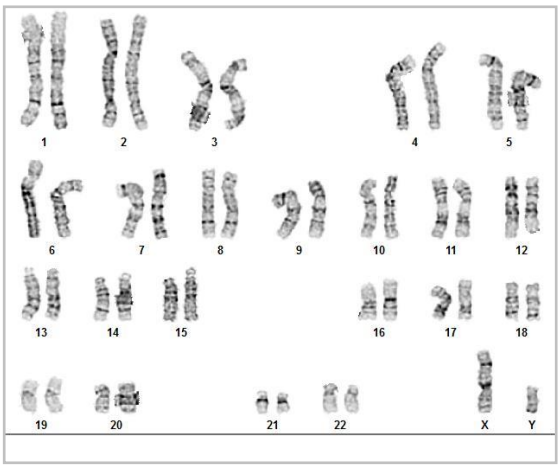
Test Description	Method	Result
Pluripotency	FACS	Expressed the pluripotency-associated proteins NANOG and TRA1-81. See the publication for Mean % TRA1-81.
Teratoma	Injected into nude rats	Differentiated into cells of ectodermal, mesodermal, and endodermal lineages in vitro.

Approval Date	Quality Assurance Approval
27-July-2018	7/27/2018 X JKG JKG Quality Assurance Signed by: Gay, Jenna

Chromosome Analysis Report: 071560

Date Reported: Monday, May 07, 2018
Cell Line: UCSD224i-NDC1-2-WB66798-13661
Passage#: 14
Date of Sample: 5/1/2018
Specimen: Human IPS
Results: 46,XY

Cell Line Gender: Male
Reason for Testing: lot release testing
Investigator: [redacted] WiCell



Cell: 40
Slide: G01
Slide Type: Karyotype

Total Counted: 20
Total Analyzed: 8
Total Karyogrammed: 4
Band Resolution: 350-475

Interpretation:

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

Completed by: [redacted]
Reviewed and Interpreted by: [redacted], 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 resu lts 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.

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TRIPath
HISTOLOGY - IHC - MOLECULAR - IMAGING
Department of Pathology and Laboratory Medicine
TRIP Laboratory (Molecular)
http://www.pathology.wisc.edu/research/trip

Short Tandem Repeat Analysis

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

Sample Report:
13661-STR
Sample Name on Tube: 13661-STR
40.1 ng/µL, (A260/280=1.81)
Sample Type: Cells
Cell Count: ~2 million cells

Requestor:
WiCell Research Institute
Quality Department

Sample Date: N/A
Receive Date: 05/07/18
Assay Date: 05/09/18
File Name: STR 180510 wmr
Report Date: 05/15/18

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 13661-STR cells submitted by WiCell QA dated and received on 05/07/18, this sample (Label on Tube: 13661-STR) exactly matches the STR profile of the human stem cell line UCSD224i-NDC1-2 comprising 27 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: No STR polymorphisms other than those corresponding to the human UCSD224i-NDC1-2 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 13661-STR sample submitted corresponds to the UCSD224i-NDC1-2 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 05/15/18**

[redacted] *BA*
TRIP Laboratory, Molecular

X *WMR* **Digitally Signed on 05/15/18**

[redacted], *PhD, Director / Co-Director*
UWHC Molecular Diagnostics Laboratory / UWSMPH TRIP Laboratory

Testing was accomplished by analysis of human genetic polymorphisms at STR loci. This methodology has not yet been approved by the FDA and is for investigational use only.
Acknowledge TRIP in your publications, posters & presentations. For details, see: *http://www.pathology.wisc.edu/research/trip/acknowledging*
TRIP agrees to maintain the confidentiality of any information provided to it in connection with its performance of this STR analysis on the same conditions as set forth in paragraph 2 of WiCell's Terms and Conditions of Service (http://www.wicell.org/media.acux/1a429b84-2b54-44a4-8ad8-5c05db93dd8a).

Native Product Sterility Report

STERIS

SAMPLE #:	18050738
DATE RECEIVED:	10-May-18
TEST INITIATED:	14-May-18
TEST COMPLETED:	29-May-18

WiCell
504 S Rosa Rd, Rm 101
Madison, WI 53719

SAMPLE NAME / DESCRIPTION:
UCSD165i-97-1 WB66795 13679
UCSD224i-NDC1-2 WB66797 13680
UCSD224i-NDC1-2 WB66798 13681
UWWC1-DS4 WB66799 13682
WC035i-SOD1-D90D WB66757 13683
JHU018i DB40957 13684
JHU032i DB36206 13685
JHU083i DB41146 13686
JHU126i DB36258 13687
JHU167i DB41380 13688
JHU190i DB36770 13689
JHU240i DB41420 13690
JHU054i DB41080 13691
JHU188i DB36766 13692
JHU084i DB41149 13693
JHU224i DB36895 13694
JHU250i DB36904 13695
JHU221i DB36885 13696
JHU218i DB36874 13697
JHU217i DB36868 13698

UNIQUE IDENTIFIER: NA

PRODUCT REGISTRATION: Other: Human iPS cells

TEST RESULTS:

# Tested	# Positives (Growth)	- Control
20	0	3 Negatives

TEST SUMMARY:

# Samples	Media Type	Volume (mL)	Incubation Temperature (° C)	Incubation Duration (Days)
20	TSB	40	20-25	14
20	FTG	40	30-35	14

Native Product Sterility Report

STERIS

REFERENCE:	Processed according to LAB-003: Sterility Test Procedure
METHOD VALIDATION / PD #:	000053
TEST METHODOLOGY:	USP - Direct Transfer

COMMENTS: Sample #18050738

REVIEWED BY _____ DATE 30MAY18

Specific test results may not be indicative of the characteristics of any other samples from the same lot or similar lots. This test report shall not be reproduced, except in full, without prior written approval. Liability is limited to the costs of the tests.

Mycoplasma Detection Assay Report

Testing Performed by WiCell

Lot Release Testing

April 30, 2018

FORM SOP-QU-004.01
Version G Edition 02
Reported by: AP
Reviewed by: DF
BD Monolight 180

#	Sample Name	Reading A		A Ave	Reading B		B Ave	Ratio B/A	Result	Comments/Suggestions
		RLU1	RLU2		RLU1	RLU2				
1	UCSD224i-NDC1-2-WB66798 13661	192	188	190	85	76	80.5	0.42	Negative	
2	Positive (+) Control	385	394	389.5	13434	13623	13529	34.73	Positive	
3	Negative (-) Control	602	604	603	73	66	69.5	0.12	Negative