

Thaw and Culture Details

Cell Line Name	UCSD066i-67-1					
WiCell Lot Number	WB60392					
Provider	University of California, San Diego – Dr. Kelly Frazer					
Banked By	WiCell					
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 4 wells of a 6 well plate.					
Culture Platform	Feeder Independent					
	Medium: mTeSR™1					
	Matrix: Matrigel®					
Protocol	WiCell Feeder Independent mTeSR [™] 1 Protocol					
Passage Number	p21 These cells were cultured for 20 passages prior to freeze and post reprogramming. WiCell adds +1 to the passage number to best represent the overall passage number of the cells at thaw.					
Date Vialed	27-February-2017					
Vial Label	UCSD066i-67-1 p21 WB60392					
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	II 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	Defines profile	Pass
Sterility	Steris	ST/07	Negative	Pass
Mycoplasma	WiCell	SOP-QU-004	Negative	Pass

Testing Reported by Provider

The Provider stated that some or all of the additional analyses listed below may have been performed for this cell line. For more information, publication and dbGaP links, where available, are provided on the cell line specific web page on the WiCell website.

- Illumina® HumanCoreExome BeadChip Array
- RNA-Seq
- Flow Cytometry (SSEA-4, Tra 1-81)
- Infinium® Expanded Multi-Ethnic Genotyping Array (MEGAEX)

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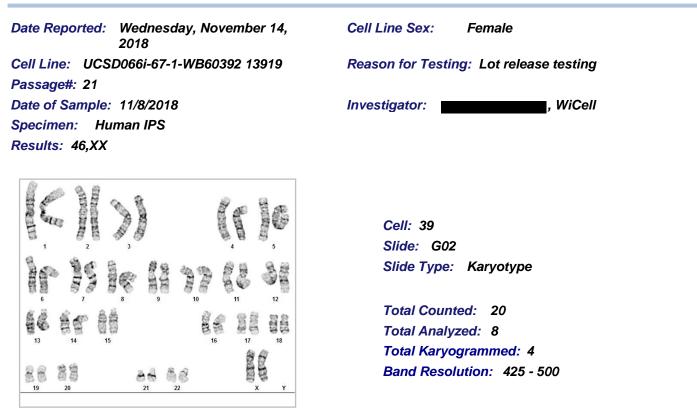


Approval Date	Quality Assurance Approval			
17-April-2017	12/6/2018 XIG Quality Assurance Signed by Gay, Jenna			

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The material provided under this certificate has been subjected to the tests specified and the results and data described herein are accurate based on WiCell's reasonable knowledge and belief. Appropriate Biosafety Level practices and universal precautions should always be used with this material. For clarity, the foregoing is governed solely by WiCell's Terms and Conditions of Service, which can be found at http://www.wicell.org/privacyandterms.





Interpretation:

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

Completed by: Reviewed and Interpreted by:	-	(ASCP) hD, FACMG	
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 of this assay are for research use only. 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.



HISTOLOGY - IHC - MOLECULAR - IMAGING

Department of Pathology and Laboratory Medicine TRIP Laboratory (Molecular) (608) 265-9168

Sample Report: 13919-STR Sample Name on Tube: 13919-STR 103.0 ng/µL, (A260/280=1.86) Sample Type: Cells Cell Count: ~2 million cells **Requestor:** WiCell Research Institute Quality Department WiCell[®] info@wicell.org (888) 204-1782

Sample Date: N/A Receive Date: 11/12/18 Assay Date: 11/13/18, 11/21/18 File Name: STR 181121 wmr Report Date: 11/26/18

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
TPOX	6-13	been redacted to
D8S1179	7-18	protect donor
vWA	10-22	confidentiality. If
Amelogenin	X,Y	more information
Penta D	2.2, 3.2, 5, 7-17	is required, please, contact
CSF1PO	6-15	<u>WiCell's Technica</u>
D16S539	5, 8-15	Support.
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	

<u>Results:</u> Based on the 13919-STR cells submitted by WiCell QA dated and received on 11/12/18, this sample (Label on Tube: 13919-STR) defines the STR profile of the human stem cell line UCSD066i-67-1 comprising 26 allelic polymorphisms across the 15 STR loci analyzed.

<u>Interpretation:</u> No STR polymorphisms other than those corresponding to the human UCSD066i-67-1 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 13919-STR sample submitted corresponds to the UCSD066i-67-1 stem cell line and was not contaminated with any other human stem cells or a significant amount of mouse feeder layer cells.

<u>Sensitivity</u>: 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 11/26/18	X WMR Digitally Sig	ned on 11/26/18
, BA	, PhD, Directo	or / Co-Director
TRIP Laboratory Molecular	UWHC Molecular Diagnostics Lab	oratory / UWSMPH TRIP Laborat

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).



Analysis

Native Product Sterility Report



		SAMPLE #: 18020291						
WiCell		DATE RECEIVED: 06-Feb						
504 S. Rosa Rd., Rm 101	L	TEST INITIATED: 07-Feb						
Madison, WI 53719		TEST COMPLETED: 21-Feb						
Madistir, W133719 CREMO15i-SS16-1 WB66723 13311, CREMO16i-SS18-1 WB66712 13312, CREMO19i-SS25-1 WB66728 13313, CREMO21i-SS29-1 WB66729 13314, H SOX2-GFP WB66727 13315, WC005i-FX11-7 WB20338 13316, WC009i-FX WB17924 13317, PENN015i-668-5 DB36410 13318, PENN029i-752-3 DB3 13319, PENN009i-57-52 DB35131 13320, PENN034i-322-1 DB34729 1332 PENN077i-521-1 DB36597 13322, PENN125i-233-4 DB35073 13323, PEN 262-1 DB35081 13324, UCSD048i-52-1 WB66722 13325, UCSD208i-111-1 WB66730 13326, UCSD133i-79-1 WB61228 13327, UCSD152i-11-3 WB612 13328, UCSD168i-22-1 WB61577 13329, UCSD170i-22-3 WB60774 13330, UCSD175i-18-3 WB60837 13331, UCSD066i-67-1 WB60392 13332, UCSD0 35-2 WB60256 13336, UCSD125i-72 WB59219 13337, UCSD119i-38-2 WB60256 13336, UCSD125i-72 WB59219 13337, UCSD128i-75 WB60297 13338, UCSD151i-11-2 WB59218 13339, UCSD158i-12-4 WB6020 13340, UCSD088i-6-5 WB53942 13341, UCSD147i-10-2 WB54174 13342, UCSD16 1 WB54407 13343, UCSD198i-23-1 WB54163 13344, UCSD098i-35-1 WB5 13345, UCSD100i-36-1 WB55460 13346, UCSD129i-75-1 WB54795 13347, UCSD136i-82-1 WB54902 13348, UCSD139i-85-1 WB55345 13349, UCSD1 18-1 WB54899 13350, UCSD187i-104-1 WB55339 13351, UCSD206i-31-1 WB54794 13352, UCSD217i-115-1 WB55069 13353, UCSD208i-116-1 WB5 13354, UCSD094i-25-1 WB55177 13355, UCSD095i-52-2 WB5780 13356, UCSD097i-34-2 WB57100 13357, UCSD136i-81 WB5736 13358, UCSD1 70-1 WB55081 13359, UCSD184i-8-1 WB55338 13360, UCSD188i-105-1 WB55081 13359, UCSD184i-8-1 WB55338 13360, UCSD188i-105-1					5729 13314, H9- 5, WC009i-FX08-01 29i-752-3 DB36392 DB34729 13321, 3 13323, PENN136i- SD208i-111-1 2i-11-3 WB61663 60774 13330, 13322, UCSD099i- D119i-38-2 7-5 WB60297 60020 13340, 342, UCSD167i-99- 98i-35-1 WB55340 54795 13347, 13349, UCSD173i- SD206i-31-1 8i-116-1 WB55459 57580 13356, 13358, UCSD115i-			
PRODUCT REGISTR	ATION:	Other: Human iPS o	cells					
TEST RESULTS:	# Tested	# Positives (Growth) - Control						
TEOTOURNARDY	50	0	3 Negative					
TEST SUMMARY:	# Samples	Media Type	Volume (mL)	Incubation Temperature (° C)	Incubation Duration (Days)			
	50	TSB	40	20-25	14			
	50	FTG	40	30-35	14			
REFERENCE:		Processed according to LAB-003: Sterility Test Procedure						
METHOD VALIDATION / PD #:		000053						
TEST METHODOLOGY:		USP - Direct Transfer						
	~	Jon Dirottinali						

Native Product Sterility Report



COMMENTS: Sample # 18020291

REVIEWED BY 50

DATE 22 FEBIS

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

Testing Performed by WiCell Lot Release Testing November 08, 2018 FORM SOP-QU-004.01 Version G Edition 02 Reported by: AP Reviewed by: JB BD Monolight 180

		Read	ding A A Readin		ing B	В	Ratio			
#	Sample Name	RLU1	RLU2	Ave	RLU1	RLU2	Ave	B/A	Result	Comments/Suggestions
1	UCSD066i-67-1-WB60392 13919	220	226	223	102	102	102	0.46	Negative	
2	Positive (+) Control	373	375	374	43003	43090	43047	115.10	Positive	
3	Negative (-) Control	687	701	694	97	83	90	0.13	Negative	

