

Thaw and Culture Details

Cell Line Name	UCSD188i-105-1				
WiCell Lot Number	WB55082				
Provider	University of California, San Diego – Dr. Kelly Frazer				
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	tocol WiCell Feeder Independent mTeSR™1 Protocol				
Passage Number	p19 These cells were cultured for 18 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	15-December-2016				
Vial Label	UCSD188i-105-1 p19 WB55082				
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	Defines profile	Pass
Sterility	Steris	ST/07	Negative	Pass
Mycoplasma	WiCell	SOP-CH-044	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 (MEGA^{EX})

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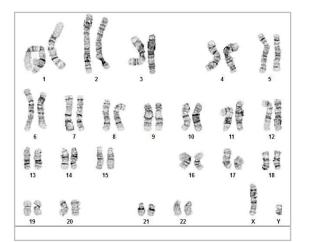
Approval Date	Quality Assurance Approval		
12-January-2017	2/28/2019 XG Guilty Assurance Signed by Gay, Jenna		

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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.



Date Reported: Friday, February 08, 2019 Cell Line: UCSD188i-105-1-WB55082 14297 Passage#: 19 Date of Sample: 2/1/2019 Specimen: Human IPS Results: 46,XY



Cell Line Sex: Male Reason for Testing: lot release testing
Investigator: WiCell
Cell: 21
Slide: G01
Slide Type: Karyotype
Total Counted: 20
Total Analyzed: 8

Total Counted: 20 Total Analyzed: 8 Total Karyogrammed: 4 Band Resolution: 450 - 550

Interpretation:

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

Completed by:			
Reviewed and Interpreted by:	, Ph	D, 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.

TRIPath

HISTOLOGY - IHC - MOLECULAR - IMAGING

Department of Pathology and Laboratory Medicine TRIP Laboratory (Molecular) https://research.pathology.wisc.edu/trip/ (608) 265-9168

Sample Report:

14297-STR Sample Name on Tube: 14297-STR 40.2 ng/μL, (A260/280=1.97) Sample Type: Cells Cell Count: ~2 million cells

Short Tandem Repeat Analysis

WiCell Research Institute

Quality Assurance Department

Requestor:



characterization@wicell.org (608) 316-4145

Receive Date: 02/11/19 **Report Sent:** 02/15/19 **Assay Date:** 02/12/19 **File Name:** STR 190212 wmr **Report Date:** 02/15/19

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
TPOX	6-13	information has
D8S1179	7-18	been redacted to
vWA	10-22	protect donor
Amelogenin	X,Y	- confidentiality. If - more information
Penta_D	2.2, 3.2, 5, 7-17	is required,
CSF1PO	6-15	please, contact
D16S539	5, 8-15	WiCell's Technical
D7S820	6-14	Support.
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 14297-STR cells submitted by WiCell QA dated and received on 02/11/19, this sample (Label on Tube: 14297-STR) defines the STR profile of the human stem cell line UCSD188i-105-1 comprising 27 allelic polymorphisms across the 15 STR loci analyzed.

<u>Interpretation:</u> No STR polymorphisms other than those corresponding to the human UCSD188i-105-1 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 14297-STR sample submitted corresponds to the UCSD188i-105-1 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 R	<i>IB</i> Digitally Signed on 02/15/19	X WMR	Digitally Signed on 02/15/19
TR	BA P Laboratory, Molecular	UWHC Mole	, PhD, Director / Co-Director cular 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 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 https://www.wicell.org/media.acux/ca76d97c-862a-43f3-b02a-ab2d1e619100. 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.

Native Product Sterility Report



				SAMPLE #:	18020291
WiCell		DATE RECEIVED: 06-Feb-18			
504 S. Rosa Rd., Rm 101	L			TEST INITIATED:	07-Feb-18
Madison, WI 53719		TEST COMPLETED: 21-Fe			
SAMPLE NAME / DESCRIPTION: CREM015i-SS16-1 WB66723 13311, CREM016i-SS18-1 WB66712 13312, CREM019i-SS25-1 WB66728 13313, CREM021i-SS29-1 WB66729 13314, H9- SOX2-GFP WB66727 13315, WC005i-FX11-7 WB20338 13316, WC009i-FX08. WB17924 13317, PENN015i-668-5 DB36410 13318, PENN029i-752-3 DB363 13319, PENN009i-57-52 DB35131 13320, PENN034i-322-1 DB34729 13321, PENN077i-521-1 DB36597 13322, PENN125i-233-4 DB35073 13323, PENN1 262-1 DB35081 13324, UCSD048i-52-1 WB66722 13325, UCSD208i-111-1 WB66730 13326, UCSD133i-79-1 WB61228 13327, UCSD152i-11-3 WB61663 13328, UCSD168i-22-1 WB61577 13329, UCSD170i-22-3 WB60774 13330, UCSD175i-18-3 WB60837 13331, UCSD066i-67-1 WB60392 13332, UCSD099 35-2 WB65030 13334, UCSD117i-72-1 WB60039 13335, UCSD19i-38-2 WB60256 13336, UCSD125i-7-2 WB59219 13337, UCSD128i-7-5 WB60297 13338, UCSD151i-11-2 WB59218 13339, UCSD158i-12-4 WB60020 13340, UCSD088i-6-5 WB53942 13341, UCSD147i-10-2 WB54174 13342, UCSD167i- 1 WB54407 13343, UCSD198i-23-1 WB54163 13344, UCSD098i-35-1 WB553 13345, UCSD100i-36-1 WB55460 13346, UCSD129i-75-1 WB54795 13347, UCSD136i-82-1 WB54902 13348, UCSD139i-85-1 WB55345 13349, UCSD173 18-1 WB54899 13350, UCSD187i-104-1 WB55339 13351, UCSD206i-31-1 WB54794 13352, UCSD208i-17-1 WB55099 13353, UCSD218i-116-1 WB554 13354, UCSD097i-34-2 WB57100 13357, UCSD113i-68-1 WB55766 13358, UCSD115 70-1 WB55081 13359, UCSD184i-8-1 WB55338 13360, UCSD188i-105-1 WB5482 13361				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			

Native Product Sterility Report



COMMENTS: Sample # 18020291

REVIEWED BY

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 Assay Report

FORM SOP-CH-044.03 Version B Edition 01

PCR-based assay performed by WiCell WiCell SCB 01Feb19

#	Sample Name	Result	Comments/Suggestions
1	UCSD188i-105-1-WB55082 14297	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma
2	Positive (+) Control	Positive	
3	Negative (-) Control	Negative	

Reported by: Brenna Anderson, Research Specialist-Cytogenetics

Reviewed by: Katie Remondini, Cell Culture Specialist

Date:______ Sent By:____ Sent To_____

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A gel image is available upon request.