

Thaw and Culture Details

Cell Line Name	WC031i-5907-6					
WiCell Lot Number	WB66556					
Provider	University of Wisconsin – Laboratory of Anita Bhattacharyya					
Banked By	WiCell					
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 3 wells of a 6 well plate.					
	Feeder Independent					
	Medium: mTeSR™1					
	Matrix: Matrigel®					
Protocol	WiCell Feeder Independent mTeSR [™] 1 Protocol					
Passage Number p11 These cells were cultured for 10 passages prior to freeze and post reprogramming. WiCell to the passage number to best represent the overall passage number of the cells at thaw.						
Date Vialed	26-August-2017					
Vial Label	WC031i-5907-6 p11 WB66556					
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	II SOP-CH-305 ≥ 15 Undifferen ≤ 30% Differ recoverable at pass		Pass	
Identity by STR	UW Translational Research Initiatives in Pathology Laboratory	PowerPlex 16 HS System by Defines profile Promega		Pass	
Sterility	Steris	ST/07	Negative	Pass	
Mycoplasma	WiCell	SOP-QU-004	Negative	Pass	

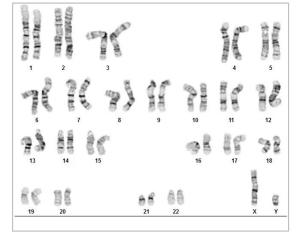
Approval Date	Quality Assurance Approval		
25-September-2017	9/25/2017 RK Quality Assurance Signed by Kremers, Erik		

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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: Wednesday, September 20, 2017 Cell Line: WC031i-5907-6-WB66556 12818 Passage#: 11 Date of Sample: 9/6/2017 Specimen: Human IPS Results: 46,XY Cell Line Gender: Male Reason for Testing: lot release testing Investigator: Olga Ganz, WiCell CDM



Cell: 11 Slide: G03 Slide Type: Karyotype

Total Counted: 20 Total Analyzed: 8 Total Karyogrammed: 4 Band Resolution: 375 - 525

Interpretation:

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

Completed by: Kim Leonhard, CG(ASCP) Reviewed and Interpreted by:

A signed copy of this report is available upon request.

Date:	Sent By:	Sent To:	QC Review By:
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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.

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Short Tandem Repeat Analysis

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

Sample Report: 12818-STR Sample Name on Tube: 12818-STR 85.6 ng/µL, (A260/280=1.87) Sample Type: Cells Cell Count: ~2 million cells

Requestor: WiCell Research Institute **Ouality Department**



Sample Date: N/A **Receive Date:** 09-11-17 Assav Date: 09-12-17 File Name: 170913 STR WMR **Report Date:** 09/15/17

STR Locus	STR Genotype Repeat #	STR Genotype			
FGA	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				
ТРОХ	6-13	8,8			
D8S1179	7-18	14,16			
vWA	10-22	16,18			
Amelogenin	X,Y	X,Y			
Penta_D	2.2, 3.2, 5, 7-17	10,13			
CSF1PO	6-15	7,11			
D16S539	5, 8-15	12,13			
D7S820	6-14	9,10			
D13S317	7-15	12,14			
D5S818	7-16	12,13			
Penta_E	5-24	7,16			
D18S51	8-10, 10.2, 11-13, 13.2, 14-27	15,16			
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	28,30			
TH01	4-9,9.3,10-11,13.3	9,9.3			
D3S1358	12-20	14,16			

Results: Based on the 12818-STR cells submitted by WiCell QA dated and received on 09/11/17, this sample (Label on Tube: 12818-STR) defines the STR profile of the human stem cell line WC03li-5907-6 comprising 29 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: No STR polymorphisms other than those corresponding to the human WC03li-5907-6 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 12818-STR sample submitted corresponds to the WC03li-5907-6 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%.

 ${f X}$ rmb X WMR **Digitally Signed on** 09/18/17

09/18/17 **Digitally Signed on**

Rebecca M. Baus TRIP Laboratory, Molecular

William M. Rehrauer, 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



	SAMPLE #:	17081954
WiCell	DATE RECEIVED:	31-Aug-17
504 S Rosa Rd, Rm 101	TEST INITIATED:	06-Sep-17
Madison, WI 53719	TEST COMPLETED:	20-Sep-17
SAMPLE NAME / DESCRIPTION:	WC027i-5807-5-WB66542 12785	
	WC028i-5807-6-WB66555 12786	
	WC029i-5907-1-WB66543 12787	
	WC030i-5907-2-WB66544 12788	
	WC031i-5907-6-WB66556 12789	
	UCSD082i-40-1-WB60394 12790	
	UCSD092i-1-10-WB63301 12791	
	UCSD093i-1-11-WB64617 12792	
	MCW109i-40001470-WB66547 12793	
	MCW064i-40001159-WB66546 12794	
UNIQUE IDENTIFIER:	NA	
PRODUCT REGISTRATION:	Human iPS cells	

PRODUCT REGISTRATION:

TEST RESULTS:	# Tested	# Positives (Growth)	- Control	
	10	0	2 Negatives	

TEST SUMMARY:

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

REFERENCE:

METHOD VALIDATION / PD #: **TEST METHODOLOGY:**

Processed according to LAB-003: Sterility Test Procedure 000053 **USP** - Direct Transfer

COMMENTS: NA **REVIEWED BY**

DATE 21SEPIT

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 September 7, 2017 FORM SOP-QU-004.01 Version F Edition 02 Reported by: KR Reviewed by: JB BD Monolight 180

		Read	Reading A A Readi		ling B	В	Ratio			
#	Sample Name	RLU1	RLU2	Ave	RLU1	RLU2	Ave	B/A	Result	Comments/Suggestions
1	WC031i-5907-6-WB66556 12818	198	187	192.5	98	105	101.5	0.53	Negative	
2	Positive (+) Control	250	271	260.5	30955	31081	31018	119.07	Positive	
3	Negative (-) Control	532	532	532	84	76	80	0.15	Negative	

