

Thaw and Culture Details

Cell Line Name	MCW069i-40000268			
WiCell Lot Number	WB67167			
Parent Material	MCW069i-40000268-DB66364			
Provider	Medical College of Wisconsin – Laboratory of Dr. Ulrich Broeckel			
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: TeSR [™] -E8 [™]			
	Matrix: Matrigel®			
Protocol	WiCell Feeder Independent E8 Medium Protocol			
Passage Number	p17 These cells were cultured for 16 passages prior to freeze and post colony selection. WiCell adds +1 to the passage number at freeze to best represent the overall passage number of the cells at thaw. Plated cells at thaw should be labeled passage 17.			
Date Vialed	25-April-2019			
Vial Label	MCW069i-40000268 p17 WB67167			
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
	WiCell	SOP-CH-003	Expected karyotype	See Report
Karyotype by G-banding	Results: 46,XY,del(18)(q21.1q21.3)[18]/46,XY[1] Nonclonal findings: 46,XY,idic(20)(p12) Interpretation: This is an abnormal karyotype. An interstitial deletion of the long (q) arm of chromosome 18 is present in eighteen of twenty cells examined. This chromosomal aberration is recurrently acquired in pluripotent stem cell cultures. No other clonal abnormalities were detected at the stated band level of resolution. There is a nonclonal finding, listed above, which contains a chromosomal aberration (gain of chromosome 20) recurrently acquired in pluripotent stem cell cultures. Nonclonal findings may result from technical artifact, but may be due to a developing clonal abnormality or to low-level mosaicism.			
Post-Thaw Viable Cell Recovery	WiCell	SOP-CH-305	 ≥ 15 Undifferentiated Colonies prior to passage, ≤ 30% Differentiation prior to passage, and recoverable attachment after passage 	Pass
Identity by STR	UW Translational Research Initiatives in Pathology Laboratory	PowerPlex 16 HS System by Promega	Defines STR profile of deposited cell line	Pass
Sterility	Steris	ST/07	Negative	Pass
Mycoplasma	WiCell	SOP-CH-044	Negative	Pass

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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.



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.

- Tra1-60 marker expression
- mRNA expression by qPCR
- Infinium[®] Expanded Multi-Ethnic Genotyping Array (MEGA^{EX})

Approval Date	Quality Assurance Approval		
04-June-2020	644/0020 XIG Quality Assurance Signed by: Gay, Jenna		

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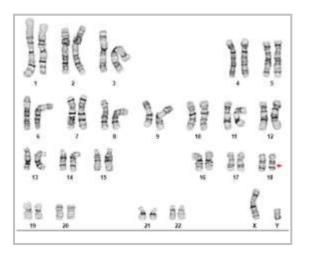
Date Reported: Friday, November 1, 2019 Cell Line: MCW069i-40000268-WB67167 15088 Passage#: 18 Date of Sample: 10/29/2019 Specimen: Human IPSC

Results: 46,XY,del(18)(q21.1q21.3)[18]/46,XY[1]

Cell Line Sex: Male Reason for Testing: Lot Release Testing

Investigator: WiCell

Nonclonal findings: 46,XY,idic(20)(p12)

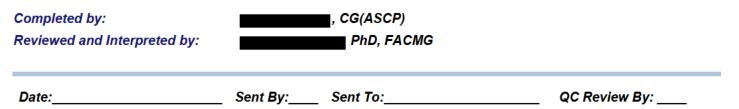


Cell: 19 Slide: G01 Slide Type: Karyotype Total Counted: 20 Total Analyzed: 8 Total Karyogrammed: 4 Band Resolution: 475 - 550

Interpretation:

This is an abnormal karyotype. An interstitial deletion of the long (q) arm of chromosome 18 is present in eighteen of twenty cells examined. This chromosomal aberration is recurrently acquired in pluripotent stem cell cultures. No other clonal abnormalities were detected at the stated band level of resolution.

There is a nonclonal finding, listed above, which contains a chromosomal aberration (gain of chromosome 20) recurrently acquired in pluripotent stem cell cultures. Nonclonal findings may result from technical artifact, but may be due to a developing clonal abnormality or to low-level mosaicism.



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 karvograms 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.



Short Tandem Repeat Analysis



characterization@wicell.org (608) 316-4145

Receive Date: 11/04/19 Report Sent: 11/12/19 Assay Date: 11/08/19 File Name: STR 191111 wmr Report Date: 11/12/19

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

Sample Report: 15088-STR

Sample Name on Tube: 15088-STR 91.7 ng/μL, (A260/280=1.85) Sample Type: Cells Cell Count: ~2 million cells **Requestor:** WiCell Research Institute Quality Assurance Department

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,	Identifying
	44.2,45.2, 46.2	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,
CSF1PO	6-15	please, contact WiCell's Technical
D16S539	5, 8-15	Support.
D7S820	6-14	<u>oappona</u>
D13S317	7-15	
D5S818	7-16	
Penta_E	5-24	
D18551	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 15088-STR cells submitted by WiCell QA dated and received on 11/04/19, this sample (Label on Tube: 15088-STR defines the STR profile of the human cell line MCW069i-40000268 comprising 28 allelic polymorphisms across the 15 STR loci analyzed.

<u>Interpretation:</u> No STR polymorphisms other than those corresponding to the human MCW069i-40000268 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 15088-STR sample submitted corresponds to the MCW069i-40000268 cell line and was not contaminated with any other human 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 cell lines is ~2-5%.

	X RMB	Digitally Signed on 11/12/19	X	WMR	Digitally Signed on 11/12/19
-	TRIP La	, BA boratory, Molecular	UWI	HC Mole	PhD, Director / Co-Director ecular 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: https://research.pathology.wisc.edu/acknowledging-trip/ 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 #	: 19050849
WiCell			DATE RECEIVED	: 09-May-19
504 S Rosa Road, Rm 101			TEST INITIATED	: 15-May-19
Madison, WI 53719			TEST COMPLETED	•
				,
SAMPLE NAME / DESCRIPTION:	MCW057i-A3286	WB67153	14647	
SAME LE NAME / BESSAM HON.	B2M-/Etrimer Elf1	WB67155	14648	
	MCW033i-A7195	WB67156	14649	
	MCW061i-40000329			
	MCW059i-40001067			
	MCW070i-40002330			
			653	
	JHU210i WB671	62 14654		
	MCW052i-40001760	WB67163	14655	
	B2M-/Edimer Elf1	WB67155	14656	
	MCW063i-40000190	WB67164	14657	
	MCW065i-40001296	WB67165	14658	
	B2M-/Edimer(preCre	e)Elf1 WB6	57166 14659	
	MCW069i-40000268	WB67167	14660	
	MCW093i-40000435	WB67168	14661	
	PACS1003i-GM27161	DB67161	14662	
	STAN011i-123-1	DB31129	14663	
	STAN012i-123-2	DB31135	14664	
	STAN015i-178-1	DB31094	14665	
	STAN016i-178-2	DB31107	14666	
UNIQUE IDENTIFIER:	NA			

TEST RESULTS:	# Tested	# Positives (Growth)	- Control
	20	0	2 Negatives

TEST S	SUMMA	RY:
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EST SUMMARY:	# Samples	Media Type	Volume (mL)	Incubation Temperature (° C)	Incubation Duration (Days)
	20	TSB	40	20-25	14
	20	FTG	40	30-35	14
REFERENCE		Processed accord	ling to LAB-003. St	arility Tast Procedu	Iro

REFERENCE:

PD #:

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

TEST METHODOLOGY:

Native Product Sterility Report



COMMENTS: NA

REVIEWED BY _____

DATE 29MAY19

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. Results applied to samples as received.



Mycoplasma Assay Report

PCR-based assay performed by WiCell WiCell 04Nov19

Sample Name	Result	Comments/Suggestions
WIZ04e-H9CAGmChry-WB67287 15092 (78907)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
SCRP4505i-WB67291 15087 (78912)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
MCW080i-U2236-WB67188 15093 (78913)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
MCW081i-U7128-WB67194 15091 (78914)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
MCW069i-40000268-WB67167 15088 (78915)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
STAN204i-448C1-WB67189 15089 (78916)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
Positive (+) Control	Positive	
Negative (-) Control	Negative	

Reported by: Cell Culture Specialist Reviewed by: Cell Culture Specialist

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A gel image is available upon request.