

Thaw and Culture Details

Cell Line Name	CREM050i-BR23-1			
WiCell Lot Number	DB66768			
Provider	Boston University – Laboratory of Dr. Martin Steinberg			
Banked By	Boston University – Laboratory of Dr. Gustavo Mostoslavsky			
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	p13 These cells were cultured for 13 passages prior to freeze and post colony picking. Therefore, plated cells at thaw should be labeled passage 14.			
Date Vialed	27-October-2014			
Vial Label	hiPSC BR-SP-23-1 p13 10-27-14 AS			
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	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

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.

- Digital Genome Sequencing
- Infinium[®] Expanded Multi-Ethnic Genotyping Array (MEGA^{EX})

©2020 WiCell Research Institute

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.



Approval Date	Quality Assurance Approval
25-June-2018	4/23/2020 X JKG Quality Assurance Signed by Gay, Janna

©2020 WiCell Research Institute

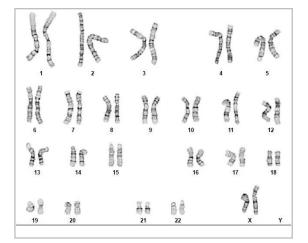
The material provided under this certificate has been subjected to the tests specified and the results and data described herein are accurate based on WiCell's reasonable knowledge and belief. Appropriate Biosafety Level practices and universal precautions should always be used with this material. For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



Chromosome Analysis Report: 080874

Date Reported: Wednesday, March 18, 2020 Cell Line: CREM050i-BR23-1-DB66768 Passage#: 15 Date of Sample: 3/11/2020 Specimen: Human IPSC Results: 46,XX Cell Line Sex: Female Reason for Testing: LOT_RELEASE

Investigator: WiCell Stem Cell Bank, WiCell



Cell: 8 Slide: G03 Slide Type: Karyotype Total Counted: 20 Total Analyzed: 8 Total Karyogrammed: 4 Band Resolution: 475 - 550

Interpretation:

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

 Completed by:
 ______, CG(ASCP)

 Reviewed and Interpreted by:
 ______, Ph.D.

 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.



Department of Pathology and Laboratory Medicine TRIP Laboratory (Molecular)



Your Lab Partner characterization@wicell.org (608) 316-4145

https://research.pathology.wisc.edu/trip-home/ (608) 265-9168

Short Tandem Repeat Analysis

Receive Date: 03/23/20 Report Sent: 04/21/20

Requestor: WiCell Characterization

Label on tube	MCW087i-U7112- WB67434 p.21 (80872)	CREM049i-BR21-1- DB66767 p.16 (80873)	CREM050i-BR23-1- DB66768 p.15 (80874)	WISCe011-A-40-WB67443 p.9 (80875)	SCRP0203i-DB42677 p.11 (80886)	CREM058i-BR43-1- DB66777 p.10 (80895)	CREM054i-BR33-1- DB66773 p.7 (80898)
Label on Report							
conc (ng/µL)							
A260/280							
Assay Date							
File Name							
FGA							
ΤΡΟΧ							
D8S1179							
vWA				Identifying			
Amelogenin				information has			
Penta_D				been redacted to protect donor			
CSF1PO				confidentiality. If			
D16S539				more information			
D7\$820				is required, please, contact			
D13S317				WiCell's Technical			
D5\$818				Support.			
Penta_E							
D18S51							
D21S11							
TH01							
D3S1358							
Allelic Polymorphisms							
Matches* Comments							



HISTOLOGY - IHC - MOLECULAR – IMAGING Department of Pathology and Laboratory Medicine

TRIP Laboratory (Molecular) https://research.pathology.wisc.edu/trip-home/ (608) 265-9168



Short Tandem Repeat Analysis

Label on tube	Elf1-WB67433 p.16 (80899)	CREM024i-SS36-1- WB67440 p.12 (80952)	SCRP0302i-DB42682 p.14 (80953)	STAN312i-906C3-DB44421 p.16 (81039)
Label on tube Label on Report conc (ng/µL) A260/280 Assay Date File Name FGA TPOX D8S1179 vWA Amelogenin Penta_D CSF1PO D16S539 D7S820 D13S317 D5S818 Penta_E D18S51 D21S11 TH01 D3S1358		WB67440 p.12 (80952) Identifyii informat been rec protect of confider more inf is requir please,	(80953) ng ion has dacted to donor itiality. If ormation ed, contact Technical	
Allelic Polymorphisms				
Matches*				
Comments				





Your Lab Partner characterization@wicell.org (608) 316-4145

Short Tandem Repeat Analysis

<u>Results</u>: Based on the DNA submitted by WiCell Characterization Department dated and received on 03/23/20, these samples define the STR profiles of the human cell lines as indicated by name. The genotypic profiles comprise a range of 26-30 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: 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. These results suggests that the cells submitted correspond to the cell lines as named and were not contaminated with any other human 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 cell lines is ~2-5%.

¹ For sample 80874 a m loci.	icrovariant exists at the D3S1358 loci with	a size less than 11 bu	undefined due to the lack of sizing standard prior to 11 at this		
	Acknowledge TRIP in your public https://research.pati				
* Note: The STR proj	file of the following sample is an exact n	natch for the given :	sample/samples.		
X RMB	Digitally Signed on 04/21/20	X WMR	Digitally Signed on 04/21/20		
	, BA , PhD, Director / Co-Director				
TRII	P Laboratory, Molecular	UWHC Mole	cular Diagnostics Laboratory / UWSMPH TRIP Laboratory		
Unless otherwise mutually a	greed in writing, the services provided to you hereunder by cux/ca76d97c-862a-43f3-b02a-ab2d1e619100. Any terms y	/ WiCell Research Institute, In	as not yet been approved by the FDA and is for investigational use only. .: ("WiCell") are governed solely by WiCell's Terms and Conditions of Service, found at order or other document that are inconsistent, add to, or conflict with WiCell's Terms agal force or effect.		

Native Product Sterility Report



WiCell 504 S Rosa Road, Rm 101 Madison, WI 53719			SAMPLE # DATE RECEIVED TEST INITIATED TEST COMPLETED	: 05-Mar-20 : 06-Mar-20
SAMPLE NAME / DESCRIPTION:	MCW021i-5000174	3 WB67429		
	MCW084i-U2053	WB67427		
	MCW115i-U2143	WB67428		
	SCRP5402i	WB67430		
	MCW102i-UR117	WB67432		
	MCW108i-U2165	WB67431		
	CREM048i-BR3-1	DB66766		
	CREM049i-BR21-1	DB66767		
	CREM050i-BR23-1	DB66768		
	CREM061i-BT1-1	DB66780		
	CREM062i-BT2	DB66781		
	Elf1	WB67433		
	STAN133i-215C1	DB44608		
	STAN134i-215C2	DB44611		
	STAN291i-827C1	DB44304		
	STAN292i-827C2	DB44307		
	STAN251i-637C1	DB44371		
	STAN311i-906C1	DB44418		
	STAN312i-906C3	DB44421		
	STAN360i-465C2	DB44240		
	STAN088i-060C1	DB35739		
	STAN164i-352C1	DB35976		
	STAN165i-352C5	DB35979		
	STAN230i-533C1	DB35783		
	STAN231i-533C2	DB35786		
	(see remainder in c	omments)		
UNIQUE IDENTIFIER:	NA			

UNIQUE IDENTIFIER:

TEST RESULTS:

# Tested	# Positives (Growth)	- Control
30	1	2 Negatives

Native Product Sterility Report



TEST SUMMARY:	# Samples	Media Type	Volume (mL)	Incubation Temperature (° C)	Incubation Duration (Days)
	30	TSB	40	20-25	14
	30	FTG	40	30-35	14
REFERENCE:		Processed accord	ding to LAB-003: St	terility Test Procedu	Ire
PD #:		000053			
		USP - Direct Trar			
TEST METHODOLO	JGY:	USP - Direct Trar	ister		
COMMENTS:	Sample # 2003	0283			
COMMENTS.					
	Sample labeled	I ISMMS 827i C2P16	AP 030416 in Med	dia Type TSB is pos	sitive.
	Sample Name/I SCRP0302i	Description continue DB42682	d:		
	SCRP0104i	DB42002			
		DB42005			
	SCRP0202i				
	SCRP02021 SCRP0203i	DB42677			
		DB42677 DB42014	1		
	SCRP0203i		1	A. Contraction of the second s	2.0

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 20Mar20

Sample Name	Result	Comments/Suggestions
WISCe011-A-40-WB67443 (80870)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
CREM024i-SS36-1-WB67440 (80954)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
CREM048i-BR3-1-DB66766 (81033)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
CREM049i-BR21-1-DB66767 (81034)	0	Band was not seen at 270bp, indicating the absence of mycoplasma.
CREM050i-BR23-1-DB66768 (81035)		Band was not seen at 270bp, indicating the absence of mycoplasma.
CREM054i-BR33-1-DB66773 (81036)	1 to Butt to	Band was not seen at 270bp, indicating the absence of mycoplasma.
CREM055i-BR37-1-DB66774 (81037)		Band was not seen at 270bp, indicating the absence of mycoplasma.
GFAP-R88C-DB67436 (81038)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
Positive (+) Control	Positive	
Negative (-) Control	Negative	

Reported by: Assistant Cell Culture Specialist Reviewed by: Assistant Research Specialist

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.

A gel image is available upon request.