



Certificate of Analysis

Thaw and Culture Details

Cell Line Name	CREM010i-SS9-1	
WiCell Lot Number	WB67935	
Parent Material	CREM010i-SS9-1- DB47994	
Provider/Client	Boston University – Laboratory of Dr. Martin Steinberg	
Banked By	WiCell	
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 3 wells of a 6 well plate using mTeSR™ Plus and Matrigel®.	
Protocol	WiCell Feeder Independent Pluripotent Stem Cell Protocol	
Culture Platform Prior to Freeze	Medium: mTeSR™ Plus	Matrix: Matrigel®
Passage Number	p13 Cells were cultured for #12 passages prior to freeze and post colony selection. Plated cells at thaw should be labeled passage 13.	
Date Vialied	16-JULY-2022	
Vial Label	CREM010i-SS9-1 p13 WB67935	
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.	



Certificate of Analysis

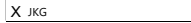
Results

Test Description	Test Provider	Test Method	Test Specification	Result
Karyotype	WiCell	G-T-L Banding performed on 20 metaphase cells	Expected karyotype	See Report
	Results: 46,XX Interpretation: This is a normal karyotype; no clonal abnormalities were detected at the stated band level of resolution.			
Post-Thaw Viable Cell Recovery	WiCell	Thaw using specified Thaw & Culture Recommendations	≥ 15 Undifferentiated Colonies prior to passage, ≤ 30% Differentiation prior to passage, and recoverable attachment after passage	Pass
Identity by STR	WiCell	PowerPlex 16 HS System by Promega™	Consistent with STR profile of deposited cell line	See Report
Mycoplasma	WiCell	PCR	Amplification of mycoplasma specific DNA detected with negative result	Pass
Sterility	Steris	Native Product Direct Transfer using FTM and TSB (ST/07)	Negative for growth following 14 days of culture	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 (MEGAEX)

Approval Date	WiCell Quality Assurance Approval
25-August-2022	<div style="text-align: right; font-size: small;">8/25/2022</div>  <div style="font-size: x-small;"> JKG WiCell Quality Assurance Signed by Gay, Jenna </div>

Date Reported: Tuesday, August 9, 2022

Cell Line: CREM010i-SS9-1-WB67935

Submitted Passage #: 13

Date of Sample: 7/29/2022

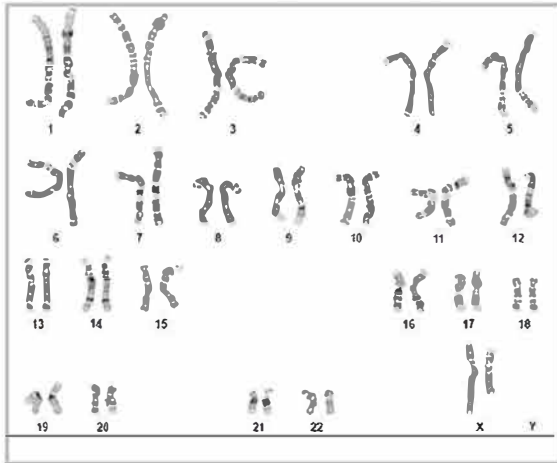
Specimen: Human iPSC

Results: 46,XX

Cell Line Sex: Female

Reason for Testing: LOT_RELEASE

Investigator: WiCell Stem Cell Bank, WiCell



Cell: 75

Slide: G03

Slide Type: Karyotype

Total Counted: 20

Total Analyzed: 8

Total Karyogrammed: 4

Band Resolution: 425 - 500

Interpretation:

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

Completed by: Leah George, CG(ASCP)

Reviewed and Interpreted by: Xiangqiang Shao, PhD

For internal use only

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.



Short Tandem Repeat

Requestor: WiCell Stem Cell Bank, WiCell

Samples Received: 29Jul22

STR Amplification Date: 03Aug22

Form SOP-89.01

Version 9.0

Sample Name	JHU017i-WB67933 p14	CREM010i-SS9-1-WB67935 p13	WC008i-C603-4-WB67936 p23
WiCell CTR No. ¹	93155	93156	93157
FGA	Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact info@wicell.org		
TPOX			
D8S1179			
vWA			
Amelogenin			
Penta_D			
CSF1PO			
D16S539			
D7S820			
D13S317			
D5S818			
Penta_E			
D18S51			
D21S11			
TH01			
D3S1358			
Allelic Polymorphisms	26	28	30
Matches*	74624	64711	70800
Comments			

**Note: The STR profile of the following sample is a 100% match for the given sample/samples unless otherwise specified.*

¹ CTR No.: Characterization Test Request Number; also known as a laboratory accessioning number.



Short Tandem Repeat

Requestor: WiCell Stem Cell Bank, WiCell

Samples Received: 29Jul22

STR Amplification Date: 03Aug22

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Assay Description: STR analysis is performed using the PowerPlex 16 HS System by Promega™. Results are reported as 13 CODIS STR markers, Amelogenin for gender determination and two low-stutter, highly discriminating pentanucleotide STR markers.

Results: 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 ~2-4%.

8/4/2022	8/5/2022	8/4/2022
X Amber Kuhn	X Molly Miles	X Hunter Hefti
Tech #1 Characterization Signed by: Kuhn, Amber	Tech #2 Characterization Signed by: Miles, Molly	QA Review Quality Assurance Signed by: Hefti, Hunter

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Mycoplasma Assay Report

PCR-based assay performed by WiCell
WiCell Stem Cell Bank, WiCell
02Aug22

Form SOP-83.01
Version 5.0

Sample Name	Result	Interpretation
JHU017i-WB67933 p14 (93155)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
CREM010i-SS9-1-WB67935 p13 (93156)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
WC008i-C603-4-WB67936 p23 (93157)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
JHU036i-WB67937 p10 (93171)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
Positive (+) Control	Positive	
Negative (-) Control	Negative	

Assay Description
Sample is tested for presence of mycoplasma using EZ-PCR™ Mycoplasma Detection Kit (Sartorius)

8/3/2022	8/5/2022	8/8/2022
X Kaylie Petersen <hr/> Tech #1 Characterization Signed by: Petersen, Kaylie	X Molly Miles <hr/> Tech #2 Characterization Signed by: Miles, Molly	X Hunter Hefti <hr/> QA Review Quality Assurance Signed by: Hefti, Hunter

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A gel image is available upon request.

Native Product Sterility Report



WiCell
504 S Rosa Road, Rm 101
Madison, WI 53719

SAMPLE #: 22070956
DATE RECEIVED: 21-Jul-22
TEST INITIATED: 25-Jul-22
TEST COMPLETED: 08-Aug-22

SAMPLE NAME / DESCRIPTION: JHU177i-WB67931
JHU225i-WB67932
JHU017i-WB67933
HVRDi002-A-WB67926
PENN004i-277-1-WB67929
PENN070i-408-1-WB67927
PENN130i-78-3-WB67934
PENN165i-M2-21-WB67928
CREM010i-SS9-1-WB67935

UNIQUE IDENTIFIER: N/A

TEST RESULTS:

# Tested	# Positives (Growth)	- Control
9	0	2 Negatives

TEST SUMMARY:

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

REFERENCE: Processed according to LAB-003: Sterility Test Procedure

PD #: 000053

TEST METHODOLOGY: USP - Direct Transfer

COMMENTS: NA

REVIEWED BY 

DATE 10 AUG 2022

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.