Certificate of Analysis

Thaw and Culture Details

Cell Line Name	**iPS(IMR90)-4**	
WiCell Lot Number	**WB67850**	
Parent Material	iPS(IMR90)-4-MCB-01	
Provider/Client	University of Wisconsin – Dr. James Thomson	
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	p32 Cells were cultured for 31 passages prior to freeze and post reprogramming. Plated cells at thaw should be labeled passage 32.	
Date Vialed	14-March-2022	
Vial Label	iPS(IMR90)-4 p32 WB67850	
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

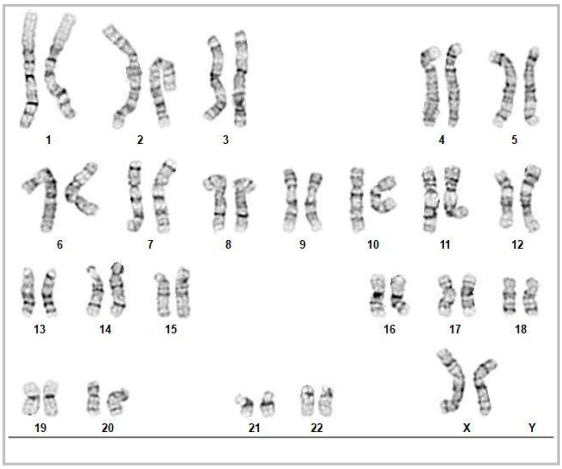
Test Description	Test Provider	Test Method	Test Specification	Result
Karyotype	WiCell	G-T-L Banding performed on 20 metaphase cells	Expected karyotype	See Report
	Results: 46,XX ***Interpretation:*** This is a normal karyotype; no clonal abnormalities were detected at the stated band level of resolution.			
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

Approval Date	WiCell Quality Assurance Approval
25-May-2022	5/25/2022 X JKG JKG Director, Quality Assurance Signed by: Gay, Jenna

Chromosome Analysis Report: 091194

Date Reported: Friday, March 25, 2022
Cell Line: iPS(IMR90)-4-WB67850
Submitted Passage #: 32
Date of Sample: 3/21/2022
Specimen: Human IPSC
Results: 46,XX

Cell Line Sex: Female
Reason for Testing: LOT_RELEASE
Investigator: WiCell Stem Cell Bank, WiCell



Cell: 81
Slide: G02
Slide Type: Karyotype

Total Counted: 20
Total Analyzed: 8
Total Karyogrammed: 4
Band Resolution: 425 - 450

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

Completed by: Jennifer Pecos, CG(ASCP)
Reviewed and Interpreted by: Vanessa Horner, PhD, FAMCG

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".

Short Tandem Repeat

Requestor: WiCell Stem Cell Bank, WiCell
Samples Received: 21Mar22
STR Amplification Date: 22Mar22

Sample Name	iPS(IMR90)-4-WB67850 p32	iPS(IMR90)-4-WB67847 p34	iPS(IMR90)-4-WB67846 p34
Label on tube	91194	91193	91192
FGA	[redacted]		
TPOX			
D8S1179			
vWA			
Amelogenin			
Penta_D			
CSF1PO			
D16S539			
D7S820			
D13S317			
D5S818			
Penta_E			
D18S51			
D21S11			
TH01			
D3S1358			
Allelic Polymorphisms	28	28	28
Matches*	See Matches Comment	See Matches Comment	See Matches Comment
Comments			

Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact info@wicell.org

**Note: The STR profile of the following sample is an exact match for the given sample/samples.*

Short Tandem Repeat

Requestor: WiCell Stem Cell Bank, WiCell
Samples Received: 21Mar22
STR Amplification Date: 22Mar22

Form SOP-89.01
Version 8.0

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 28 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%.

Matches: Samples 91192, 91194, and 91193 are an exact match to 87887, 87793, 84550, 63441, 58649, 67351, 70422, 65704, 63444 and 96.67% match to 63442. Additional matches can be provided upon request.

3/23/2022 X Amber Kuhn Tech #1 Characterization Signed by: Kuhn, Amber	3/29/2022 X Hannah Rueth Tech #2 Characterization Signed by: Rueth, Hannah	3/29/2022 X Dawn Graham QA Review Quality Assurance Signed by: Graham, Dawn

Raw data is available upon request.

Mycoplasma Assay Report

PCR-based assay performed by WiCell
WiCell Stem Cell Bank, WiCell
22Mar22

Form SOP-83.01
Version 5.0

Sample Name	Result	Interpretation
iPS(IMR90)-4-WB67846 p34 (91192)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
iPS(IMR90)-4-WB67847 p34 (91193)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
iPS(IMR90)-4-WB67850 p32 (91194)	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).

3/22/2022 X Amber Kuhn Tech #1 Characterization Signed by: Kuhn, Amber	3/24/2022 X Kayla Janke Tech #2 Characterization Signed by: Janke, Kayla	3/25/2022 X Dawn Graham QA Review Quality Assurance Signed by: Graham, Dawn

A gel image is available upon request.

Native Product Sterility Report

STERIS

SAMPLE #:	22040783
DATE RECEIVED:	14-Apr-22
TEST INITIATED:	28-Apr-22
TEST COMPLETED:	12-May-22

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

SAMPLE NAME / DESCRIPTION:

JHU038i-DB40987
JHU039i-DB40991
JHU040i-DB41044
JHU043i-DB41052
JHU048i-DB41068
JHU055i-DB41083
JHU158i-DB36358
JHU171i-DB36374
JHU197i-DB41411
JHU235i-DB37044
[redacted]
JHU185i-DB41395
JHU052i-DB41077
iPS(IMR90)-4-WB67850
iPS(IMR90)-4-WB67851
iPS(IMR90)-4-WB67852
iPS(IMR90)-4-WB67853
PENN102i-96-1-DB36580
PENN104i-321-6-DB34693

UNIQUE IDENTIFIER: N/A

TEST RESULTS:

# Tested	# Positives (Growth)	- Control
19	0	2 Negatives

TEST SUMMARY:

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

Native Product Sterility Report

STERIS

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

PD #: 000053

TEST METHODOLOGY: USP - Direct Transfer

COMMENTS: NA

REVIEWED BY Lonnie Buckhard DATE 23May2022