



Certificate of Analysis

Thaw and Culture Details

Cell Line Name	JHU040i	
WiCell Lot Number	DB41044	
Provider/Client	Johns Hopkins University – Laboratory of Dr. Lewis Becker	
Banked By	Johns Hopkins University – Laboratory of Dr. Lewis Becker	
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 6 wells of a 6 well plate using TeSR™ - E8™ and Recombinant Human Vitronectin. WiCell recommends thawing using ROCK Inhibitor for best results.	
Protocol	WiCell Feeder Independent Pluripotent Stem Cell Protocol	
Culture Platform Prior to Freeze	Medium: E8	Matrix: Vitronectin
Passage Number	p5 Cells were cultured for 5 passages prior to freeze and post reprogramming. Plated cells at thaw should be labeled passage 6.	
Date Vialied	17-June-2016	
Vial Label	P040 hips P5 1.2X10 ⁶ 6/17/16	
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,XY 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	Recoverable attachment after passage	Pass
Identity by STR	WiCell	PowerPlex 16 HS System by Promega™	Defines 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.

- Embryoid bodies
- Infinium® Expanded Multi-Ethnic Genotyping Array (MEGA^{EX})

Approval Date	WiCell Quality Assurance Approval
26-May-2022	5/26/2022 X JKG _____ JKG Director, Quality Assurance Signed by: Gay, Jenna

Date Reported: Wednesday, April 20, 2022

Cell Line: JHU040i-DB41044

Submitted Passage #: 6

Date of Sample: 4/14/2022

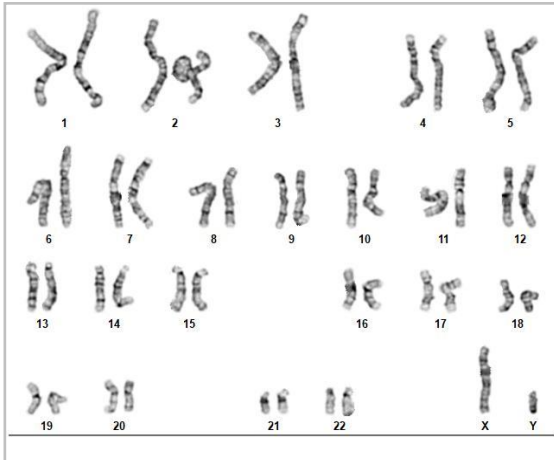
Specimen: Human iPSC

Results: 46,XY

Cell Line Sex: Male

Reason for Testing: LOT_RELEASE

Investigator: WiCell Stem Cell Bank, WiCell



Cell: 37

Slide: G01

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: Pam Mill

Reviewed and Interpreted by: Vanessa Horner, PhD, FACMG

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

Form SOP-89.01

Version 8.0

Requestor: WiCell Stem Cell Bank, WiCell
 Samples Received: 13Apr22, 14Apr22, 15Apr22
 STR Amplification Date: 21Apr22

Sample Name	JHU197i-DB41411 p10	JHU043i-DB41052 p4	JHU235i-DB37044 p5	JHU040i-DB41044 p6	JHU038i-DB40987 p7	JHU185i-DB41395 p10	JHU217i-DB36868 p9
Label on tube	91564	91576	91577	91578	91596	91597	91563
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	27	25	27	25	27	28	27
Matches*							
Comments							Minor Contamination

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



Short Tandem Repeat

Form SOP-89.01
Version 8.0

Requestor: WiCell Stem Cell Bank, WiCell
Samples Received: 13Apr22, 14Apr22, 15Apr22
STR Amplification Date: 21Apr22

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 25-28 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%.

Minor Contamination: Sample 91563 shows signs of possible contamination. Additionally, a sex discrepancy has been observed as the STR genotype differs from the reported sex. The most likely explanation for this result is that two cultures have been mixed. Please resubmit this sample.

4/26/2022	4/27/2022	4/26/2022
X Amber Kuhn	X Anna Lisa Larson	X Andy Arntz
Tech #1 Characterization Signed by: Kuhn, Amber	Tech #2 Characterization Signed by: Larson, Anna Lisa	QA Review Quality Assurance Signed by: Arntz, Andy

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Raw data is available upon request.



Mycoplasma Assay Report

PCR-based assay performed by WiCell
WiCell Stem Cell Bank, WiCell
19Apr22

Form SOP-83.01
Version 5.0

Sample Name	Result	Interpretation
JHU217i-DB36868 p9 (91563)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
JHU197i-DB41411 p10 (91564)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
JHU043i-DB41052 p4 (91576)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
JHU235i-DB37044 p5 (91577)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
JHU040i-DB41044 p6 (91578)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
JHU038i-DB40987 p7 (91596)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
JHU185i-DB41395 p10 (91597)	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).

4/19/2022	4/19/2022	4/20/2022
X Kayla Janke <hr/> Tech #1 Characterization Signed by: Janke, Kayla	X Amber Kuhn <hr/> Tech #2 Characterization Signed by: Kuhn, Amber	X Dawn Graham <hr/> QA Review Quality Assurance Signed by: Graham, Dawn

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

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



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

PD #: 000053

TEST METHODOLOGY: USP - Direct Transfer

COMMENTS: NA

REVIEWED BY *Aimee Burkhard*

DATE 23 May 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.