



Certificate of Analysis

Thaw and Culture Details

Cell Line Name	PACS2iPS01-C5	
WiCell Lot Number	DB68076	
Provider/Client	PACS2 Research Foundation	
Banked By	iXCells Biotechnologies	
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 2 wells of a 6 well plate using mTeSR™ 1 and Cultrex®.	
Protocol	WiCell Feeder Independent Pluripotent Stem Cell Protocol	
Culture Platform Prior to Freeze	Medium: mTeSR™ 1	Matrix: Matrigel®
Passage Number	p5 Cells were cultured for 5 passages prior to freeze and post colony selection. Plated cells at thaw should be labeled passage 6.	
Date Vialled	27-September-2022	
Vial Label	hiPSC Clone #5 P5 SO2204944 Size: ~1 million cells/vial Freezing medium: CS10 Lot: SO2204944-C5 Date: 9/27/2022	
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	Recoverable attachment after passage	Pass
Identity by STR	WiCell	PowerPlex 16 HS System by Promega™	Consistent with STR profile of donor material	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. Additional information about this cell line is provided on the cell line specific web page on the WiCell website.

Test Description	Result
Mycoplasma	Negative
G-Banding Karyotype	Normal karyotype
Identity by STR	Match to parental PBMC

Approval Date	WiCell Quality Assurance Approval
14-June-2023	6/14/2023 X HEB HEB WiCell Quality Assurance Signed by: Bruner, Haley

Date Reported: Wednesday, March 8, 2023

Cell Line: PACS2iPS01-C5-DB68076

Submitted Passage #: 7

Date of Sample: 3/3/2023

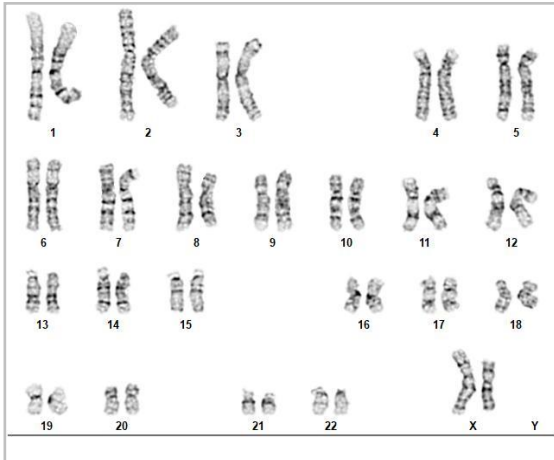
Specimen: Human IPSC

Results: 46,XX

Cell Line Sex: Female

Reason for Testing: LOT_RELEASE

Investigator: WiCell Stem Cell Bank, WiCell



Cell: 52

Slide: G01

Slide Type: Karyotype

Total Counted: 20

Total Analyzed: 8

Total Karyogrammed: 4

Band Resolution: 425 - 475

Interpretation:

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

Completed by: Timm Gonzales, CG(ASCP)

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

Requestor: WiCell Stem Cell Bank, WiCell

Samples Received: 03Mar23

STR Amplification Date: 07Mar23

Form SOP-89.01

Version 9.0

Sample Name	PACS2iPS01-C5-DB68076 p7
WiCell CTR No. ¹	96179
Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact info@wicell.org	
Allelic Polymorphisms	26
Matches*	
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: 03Mar23

STR Amplification Date: 07Mar23

Form SOP-89.01

Version 9.0

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 26 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%.

3/8/2023	3/9/2023	3/9/2023
X Amber Kuhn	X Anna Lisa Larson	X Haley Bruner
Tech #1	Tech #2	QA Review
Characterization	Characterization	Quality Assurance
Signed by: Kuhn, Amber	Signed by: Larson, Anna Lisa	Signed by: Bruner, Haley

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. Raw data is available upon request.



Mycoplasma Assay Report

PCR-based assay performed by WiCell
WiCell Stem Cell Bank, WiCell
08Mar23

Form SOP-83.01
Version 5.0

Sample Name	Result	Interpretation
WA09-WB68075 p27 (96184)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
WA09-WB68074 p27 (96183)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
PACS2iPS01-C5-DB68076 p7 (96179)	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).

3/10/2023 X Michael Mussar Tech #1 Characterization Signed by: Mussar, Michael	3/10/2023 X Amber Kuhn Tech #2 Characterization Signed by: Kuhn, Amber	3/10/2023 X Ryen Smith QA Review Quality Assurance Signed by: Smith, Ryen
---	---	--

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.

Native Product Sterility Report



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

SAMPLE #: 23040601
DATE RECEIVED: 13-Apr-23
TEST INITIATED: 14-Apr-23
TEST COMPLETED: 28-Apr-23

SAMPLE NAME / DESCRIPTION: PACS2iPS01-C5-DB68076
WA09-WB68097
HES7-NLuc-2A-tdtomato-DB68082
H9 T-2A-EGFP-PGK-DB68085
H1-Fucci-DB68086
H1 MYH11-NLuc-tdTomato-DB68087
HES7-NLuc-2A-tdtomato-DB68090
JHU255i-DB37129
JHU256i-DB37132
JHU257i-DB37136
UCSD242i-LQT1-1-DB68089
UCSD243i-LQT3-1-DB68091
UCSD244i-LQT3-2-DB68092
UCSD245i-CNTL-1-DB68093
UCSD246i-CNTL-2-DB68094
UCSD247i-LQT1-2-DB68095
UCSD182i-3-2-DB68096
JHU252i-DB37121
JHU013i-2-DB40951
JHU022i-DB40963

UNIQUE IDENTIFIER: N/A

TEST RESULTS:

# Tested	# Positives (Growth)	- Control
20	1	2 Negatives

TEST SUMMARY:

# Samples	Media Type	Volume (mL)	Incubation Temperature (° C)	Incubation Duration (Days)
20	TSB	40	20-25	14
20	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: Sample #23040601

Sample labeled H1myh11 c5 p28 5cm2 jab 28AUG17 is positive for both TSB and FTG media.

AUTHORIZED BY

A handwritten signature in blue ink, appearing to be "AD", written over a horizontal line.

DATE 09 MAY 2023

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.