



Certificate of Analysis

Thaw and Culture Details

Cell Line Name	PENN122i-627-5	
WiCell Lot Number	DB36632	
Provider/Client	University of Pennsylvania – Dr. Daniel Rader	
Banked By	Penn Institute for Regenerative Medicine iPS Core Facility	
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 1 well of a 6 well plate using Stem Cell Culture Medium and MEF. WiCell recommends thawing using ROCK Inhibitor for best results.	
Protocol	WiCell Feeder Based (MEF) Pluripotent Stem Cell Protocol	
Culture Platform Prior to Freeze	Medium: Stem Cell Culture Medium	Matrix: MEF
Passage Number	p13 Cells were cultured for 13 passages prior to freeze and post colony selection. Plated cells at thaw should be labeled passage 13.	
Date Vial	22-July-2015	
Vial Label	iPS-627 SEV5 P13 7/22/2015 ZL	
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

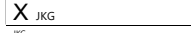
Results

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.

- SNP microarray
- Flow Cytometry (Tra1-60 and SSEA-4)
- Differentiation into hepatocytes
- Infinium® Expanded Multi-Ethnic Genotyping Array (MEGA^{EX})

Approval Date	WiCell Quality Assurance Approval
27-June-2016	<div style="text-align: right; font-size: small;">7/1/2021</div>  <div style="font-size: x-small;"> X JKG JKG WiCell Quality Assurance Signed by Gay Jenna </div>

Date Reported: Thursday, June 17, 2021

Cell Line Sex: Male

Cell Line: PENN122i-627-5-DB36632

Reason for Testing: LOT_RELEASE

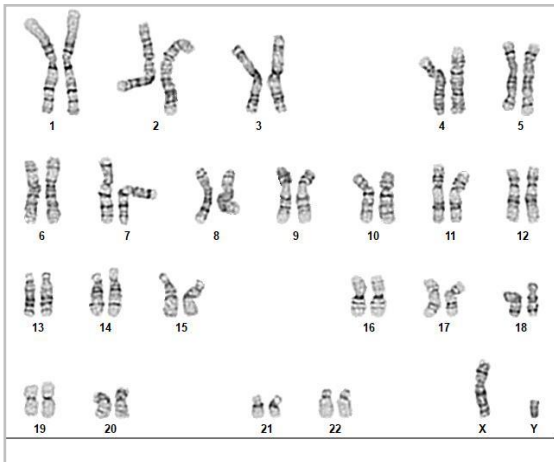
Submitted Passage #: 15

Date of Sample: 6/4/2021

Investigator: WiCell Stem Cell Bank, WiCell

Specimen: Human iPSC

Results: 46,XY



Cell: 25

Slide: G03

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: [REDACTED], CG(ASCP)

Reviewed and Interpreted by: [REDACTED], PhD, FACMG

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: 03Jun21, 04Jun21

STR Amplification Date: 07Jun21

Form SOP-89.01

Version 5.0

Sample Name	STAN249i-617C2-DB35491 p15	STAN151i-303C3-DB35736 p18	STAN248i-617C1-DB35488 p15	PENN122i-627-5-DB36632 p15
Label on tube	86519	86540	86541	86542
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	27	27	28
Matches*				
Comments				

**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: 03Jun21, 04Jun21
STR Amplification Date: 07Jun21

Form SOP-89.01
Version 5.0

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 27-28 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%.

6/9/2021	6/10/2021	6/10/2021
X [Redacted]	X [Redacted]	X [Redacted]
Tech #1 Characterization Signed by: [Redacted]	Tech #2 Characterization Signed by: [Redacted]	QA Review Quality Assurance Signed by: [Redacted]

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Raw data is available upon request.

Native Product Sterility Report



CORRECTED REPORT

WiCell
504 S. Rosa Rd, Rm 101
Madison, WI 53719

SAMPLE #: 17030864
DATE RECEIVED: 09-Mar-17
TEST INITIATED: 13-Mar-17
TEST COMPLETED: 27-Mar-17

SAMPLE NAME / DESCRIPTION: HVRDi002-A-1-DB46579 12321; UCSD018i-3-6-WB60395 12322; PENN108i-781-3-DB36616 12323; PENN047i-254-60-DB36620 12324; PENN123i-SV20-DB36624 12325; PENN116i-125-16-DB36628 12326; PENN122i-627-5-DB36632 12327; PENN064i-22-2-DB36636 12328; PENN036i-286-3-DB36640 12329; PENN076i-361-2-DB36644 12330

UNIQUE IDENTIFIER: NA

PRODUCT REGISTRATION: Stem Cycles

TEST RESULTS:

# Tested	# Positives (Growth)	- Control
10	0	3 Negatives

TEST SUMMARY:

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

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

METHOD VALIDATION / PD #: 000053

TEST METHODOLOGY: USP - Direct Transfer

COMMENTS: Report revised due to corrected Sample Name / Description.

REVIEWED BY

DATE

05 APR 17

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.



Mycoplasma Assay Report

PCR-based assay performed by WiCell

WiCell

25May21

FORM SOP-83.01

Version 3.0

Sample Name	Result	Interpretation
INC149 17May21MMM 1 of 2 (86273)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
INC149 17May21MMM 2 of 2 (86274)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
INC123 17May21KR 1 of 2 (86275)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
INC123 17May21KR 2 of 2 (86276)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
PENN114i-127-2-DB34717 p14 (86309)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
PENN122i-627-5-DB36632 p14 (86310)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
PENN132i-131-5-DB35044 p15 (86311)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
Positive (+) Control	Positive	
Negative (-) Control	Negative	

5/26/2021

X [Redacted]

Tech #1
Characterization
Signed by: [Redacted]

5/27/2021

X [Redacted]

Tech #2
Characterization
Signed by: [Redacted]

6/1/2021

X [Redacted]

QA Review
Quality Assurance
Signed by: [Redacted]

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A gel image is available upon request.