



# Certificate of Analysis

## Thaw and Culture Details

Cell Line Name	<b>PENN130i-78-3</b>	
WiCell Lot Number	<b>DB34941</b>	
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 passaging with ROCK Inhibitor.	
Protocol	WiCell Feeder Based (MEF) Pluripotent Stem Cell Protocol	
Culture Platform Prior to Freeze	Stem Cell Culture Medium	MEF
Passage Number	p14 Cells were cultured for 14 passages prior to freeze and post colony selection. Plated cells at thaw should be labeled passage 15.	
Date Vialied	27-MAY-2015	
Vial Label	iPS-78-045 Sev3 P14 05-27-15 JS	
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

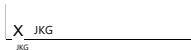
## Results

Test Description	Test Provider	Test Method	Test Specification	Result
Karyotype	WiCell	G-T-L Banding performed on 20 metaphase cells	Expected karyotype	See Report
	<b>Results:</b> 46,XY <b>Interpretation:</b> 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 (MEGAEX)

Approval Date	WiCell Quality Assurance Approval
17-February-2022	<div style="text-align: right; font-size: small;">2/17/2022</div>  <div style="font-size: x-small;">           JKG            JKG            WiCell Quality Assurance            Signed by: Gay, Jenna         </div>

**Date Reported:** Friday, February 4, 2022

**Cell Line:** PENN130i-78-3-DB34941

**Submitted Passage #:** 17

**Date of Sample:** 1/31/2022

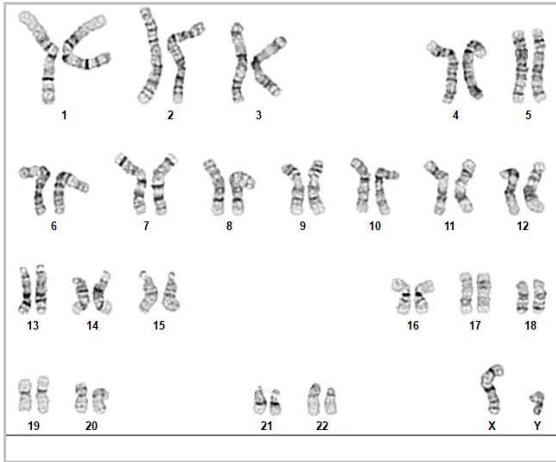
**Specimen:** Human iPSC

**Results:** 46,XY

**Cell Line Sex:** Male

**Reason for Testing:** LOT\_RELEASE

**Investigator:** WiCell Stem Cell Bank, WiCell



**Cell:** 2

**Slide:** G01

**Slide Type:** Karyotype

**Total Counted:** 20

**Total Analyzed:** 8

**Total Karyogrammed:** 4

**Band Resolution:** 475 - 550

**Interpretation:**

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

**Completed by:** Kate Bird, CG(ASCP)

**Reviewed and Interpreted by:** Kaitlin C. Lenhart, PhD, DABMGG

*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](http://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: 31Jan22, 04Feb22

STR Amplification Date: 07Feb22

Form SOP-89.01

Version 7.0

Sample Name	[REDACTED]			PENN130i-78-3-DB34941 p17
Label on tube	90563	90564	90565	90463
FGA	Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact <a href="mailto:info@wicell.org">info@wicell.org</a>			
TPOX				
D8S1179				
vWA				
Amelogenin				
Penta_D				
CSF1PO				
D16S539				
D7S820				
D13S317				
D5S818				
Penta_E				
D18S51				
D21S11				
TH01				
D3S1358				
Allelic Polymorphisms	27	27	27	27
Matches*	See Matches Comment	See Matches Comment	See Matches Comment	
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: 31Jan22, 04Feb22

STR Amplification Date: 07Feb22

**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 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 90563, 90564 and 90565 are exact matches to each other and to 90337, 90334, 90333, 90335, 90336, 90332, 89674, 89682, 89683, 89681 and additional profiles. Additional matches can be provided upon request.

2/9/2022	2/11/2022	2/10/2022
<p><b>X</b> Amber Kuhn</p> <hr/> <p>Tech #1 Characterization Signed by: Kuhn, Amber</p>	<p><b>X</b> Molly Miles</p> <hr/> <p>Tech #2 Characterization Signed by: Miles, Molly</p>	<p><b>X</b> Dawn Graham</p> <hr/> <p>QA Review Quality Assurance Signed by: Graham, Dawn</p>

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*Raw data is available upon request.*



# Mycoplasma Assay Report

PCR-based assay performed by WiCell  
WiCell Stem Cell Bank, WiCell  
21Jan22

Form SOP-83.01  
Version 4.0

Sample Name	Result	Interpretation
PENN130i-78-3-DB34941 p15 (90192)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
STAN061i-164-1-WB67826 p13 (90216)	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).

1/21/2022	1/21/2022	1/24/2022
<b>X</b> Hannah Rueth <hr/> Tech #1 Characterization Signed by: Rueth, Hannah	<b>X</b> Amber Kuhn <hr/> Tech #2 Characterization Signed by: Kuhn, Amber	<b>X</b> 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 #: 21121046  
DATE RECEIVED: 16-Dec-21  
TEST INITIATED: 22-Dec-21  
TEST COMPLETED: 05-Jan-22

SAMPLE NAME / DESCRIPTION: JHU083i-WB67825  
STAN061i-164-1-WB67826  
STAN366i-282C2-WB67827  
STAN022i-170-2-DB30885  
PENN130i-78-3-DB34941  
PENN165i-M2-21-DB35068  
PENN157i-M2-6-DB35083  
PENNO95i-123-7-DB36648  
PENNO96i-44-4-DB34677  
PENNO97i-17-1-DB36079

UNIQUE IDENTIFIER: NA

## TEST RESULTS:

# Tested	# Positives (Growth)	- Control
10	0	2 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

PD #: 000053

TEST METHODOLOGY: USP - Direct Transfer

COMMENTS: NA

REVIEWED BY 

DATE 05 JAN 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.