Thaw and Culture Details

Cell Line Name	PENN123i-SV20
WiCell Lot Number	DB36624
Provider	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. WiCell recommends thawing using ROCK Inhibitor for best results.
Culture Platform	Feeder Independent
	Medium: mTeSR1™
	Matrix: Geltrex®
Protocol	WiCell Feeder Independent mTeSR1 Protocol
Passage Number	p26(9) These cells were cultured for 25 passages after colony picking prior to freeze. The Provider adds +1 to the passage number to best represent the overall passage number of the cells at thaw.
Date Vialed	07-May-2016
Vial Label	iPS-SV20 p26(9) feeder free 5/7/2016 WY
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.

Testing Performed by WiCell

Test Description	Test Provider	Test Method	Test Specification	Result
Karyotype by G-banding	WiCell	SOP-CH-003	Expected karyotype	Fail
	This is an abnormal karyotype. Two of twenty cells that were examined have an extra copy of chromosome Y and an extra copy of chromosome 20. Trisomy 20 is a recurrent acquired abnormality in human pluripotent stem cell cultures.			
Post-Thaw Viable Cell Recovery	WiCell	SOP-CH-305	Recoverable attachment after passage	Pass
Identity by STR	UW Translational Research Initiatives in Pathology Laboratory	PowerPlex 16 HS System by Promega	Defines profile	Pass
Sterility	Biotest Laboratories	ST/07	Negative	Pass
Mycoplasma	WiCell	SOP-QU-004	Negative	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	Quality Assurance Approval
27-June-2016	8/3/2017 X AMK AMK Quality Assurance Signed by: Klade, Anjelica

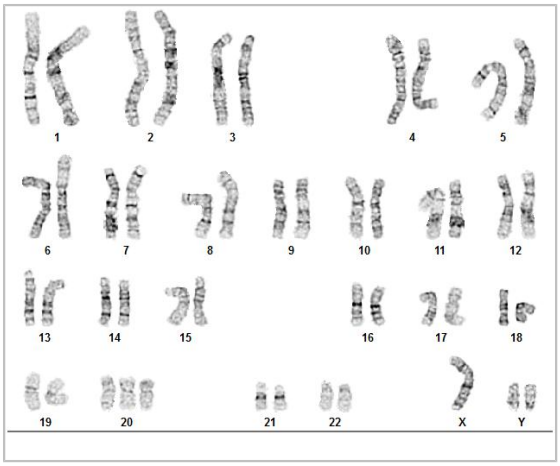
Chromosome Analysis Report: 060775

Date Reported: Monday, March 13, 2017
Cell Line: PENN123i-SV20-DB36624 12312
Passage#: 27(10)
Date of Sample: 3/6/2017
Specimen: iPSC
Results: 48,XY,+Y,+20[2]/46,XY[17]

Nonclonal Findings: 47,XY,+20

Cell Line Gender: Male
Reason for Testing: lot release testing

Investigator: [redacted], WiCell CDM



Cell: 44
Slide: 2
Slide Type: Karyotype

Total Counted: 20
Total Analyzed: 8
Total Karyogrammed: 4
Band Resolution: 425 - 475

Interpretation:

This is an abnormal karyotype. Two of twenty cells that were examined have an extra copy of chromosome Y and an extra copy of chromosome 20. Trisomy 20 is a recurrent acquired abnormality in human pluripotent stem cell cultures.

There is one nonclonal finding, listed above. Nonclonal findings may result from technical artifact, but may be due to a developing clonal abnormality or to low-level mosaicism.No abnormalities were found in seventeen of the twenty cells examined.

Completed by: [redacted] MS, CG(ASCP)
Reviewed and Interpreted by: [redacted], PhD, FACMG

A signed copy of this report is available upon request.

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 may not be relied upon by any other party without the prior written consent of the Director of the WiCell Cytogenetics Laboratory. The resu lts of this assay are for research use only. If the results of this assay are to be used for any other purpose, contact the Director of the WiCell Cytogenetics Laboratory.

Short Tandem Repeat Analysis

School of Medicine and Public Health
UNIVERSITY OF WISCONSIN-MADISON
Department of Pathology and Laboratory Medicine
TRIP Laboratory (Molecular)
http://www.pathology.wisc.edu/research/trip

WiCell®
info@wicell.org
(888) 204-1782

Sample Report:
12312-STR
Sample Name on Tube: 12312-STR
118.2 ng/µL, (A260/280=1.92)
Sample Type: Cells
Cell Count: ~2 million cells

Requestor:
WiCell Research Institute
Quality Department

Sample Date: N/A
Receive Date: 03/13/17
Assay Date: 03/14/17
File Name: STR 170315 wmr
Report Date: 03/16/17

STR Locus	STR Genotype Repeat #	STR Genotype
FGA	16–18,18.2,19,19.2,20,20.2,21,21.2,22, 22.2, 23, 23.2, 24, 24.2, 25, 25.2, 26–30, 31.2, 43.2, 44.2,45.2, 46.2	Identifying information has been redacted to protect donor confidentiality. If more information is required, please, contact WiCell's Technical Support.
TPOX	6-13	
D8S1179	7-18	
vWA	10-22	
Amelogenin	X,Y	
Penta_D	2.2, 3.2, 5, 7-17	
CSF1PO	6-15	
D16S539	5, 8-15	
D7S820	6-14	
D13S317	7-15	
D5S818	7-16	
Penta_E	5-24	
D18S51	8-10, 10.2, 11-13, 13.2, 14-27	
D21S11	24,24.2,25,25.2,26-28,28.2,29,29.2, 30, 30.2,31, 31.2,32,32.2,33,33.2, 34,34.2,35,35.2,36-38	
TH01	4-9,9.3,10-11,13.3	
D3S1358	12-20	

Results: **Based on the 12312-STR cells submitted by WiCell QA dated and received on 03/13/17, this sample (Label on Tube: 12312-STR) defines the STR profile of the human stem cell line PENN123i-SV20 comprising 24 allelic polymorphisms across the 15 STR loci analyzed.**

Interpretation: **No STR polymorphisms other than those corresponding to the human PENN123i-SV20 stem cell line were detected and 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. This result suggests that the 12312-STR sample submitted corresponds to the PENN123i-SV20 stem cell line and was not contaminated with any other human stem 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 stem cell lines is ~2-5%.**

X *RMB* **Digitally Signed on 03/17/17**

[redacted]
TRIP Laboratory, Molecular

X *WMR* **Digitally Signed on 03/17/17**

[redacted], *PhD, Director / Co-Director*
UWHC Molecular Diagnostics Laboratory / UWSMPH TRIP Laboratory

Native Product Sterility Report

STERIS

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; PENN063i-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: NA

REVIEWED BY _____ DATE 31MAR17

Mycoplasma Detection Assay Report

Testing Performed by WiCell

Lot Release

March 3, 2017

FORM SOP-QU-004.01
Version F Edition 02
Reported by: OG
Reviewed by: JB
BD Monolight 180

#	Sample Name	Reading A		A Ave	Reading B		B Ave	Ratio B/A	Result	Comments/Suggestions
		RLU1	RLU2		RLU1	RLU2				
1	PENN123i-SV20-DB36624 12312	191	190	190.5	106	102	104	0.55	Negative	
2	Positive (+) Control	262	278	270	47577	48039	47808	177.07	Positive	
3	Negative (-) Control	480	488	484	74	72	73	0.15	Negative