Certificate of Analysis

Thaw and Culture Details

Cell Line Name	**STAN023i-41-1**	
WiCell Lot Number	**DB31169**	
Provider/Client	Stanford University – Laboratory of Dr. Marlene Rabinovitch	
Banked By	Stanford University – Laboratory of Dr. Marlene Rabinovitch	
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 1 well of a 6 well plate using TeSR™-E8™ and Matrigel®.	
Protocol	WiCell Feeder Independent Pluripotent Stem Cell Protocol	
Culture Platform Prior to Freeze	Medium: E8	Matrix: Matrigel®
Passage Number	p10 These cells were cultured for 10 passages prior to freeze and post reprogramming. Add +1 to the passage number to best represent the overall passage number of the cells at thaw.	
Date Vialed	10-June-2015	
Vial Label	06/10/2015 E 41 D####-### ip 41FSVNOC1 P10 V###########	The label on vial only includes information applicable to the entire lot. " D####-###" and "V###########" are vial specific and therefore are not included on this CoA.
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

Test Description	Method	Result
Identity	SNP	iPSCs match the donor material
Mycoplasma	Lonza MycoAlert™ kit	Negative

The Provider stated that the additional analysis 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.

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

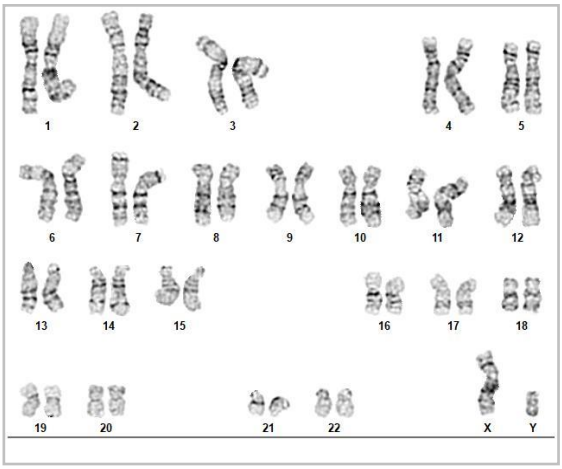
Certificate of Analysis

Approval Date	WiCell Quality Assurance Approval
04-June-2016	11/11/2021 X HEB HEB WiCell Quality Assurance Signed by: Bruner, Haley

Chromosome Analysis Report: 087772

Date Reported: Tuesday, August 31, 2021
Cell Line: STAN023i-41-1-DB31169
Submitted Passage #: 12
Date of Sample: 8/23/2021
Specimen: Human IPSC
Results: 46,XY

Cell Line Sex: Male
Reason for Testing: LOT_RELEASE
Investigator: WiCell Stem Cell Bank, WiCell



Cell: 20
Slide: G02
Slide Type: Karyotype

Total Counted: 20
Total Analyzed: 8
Total Karyogrammed: 4
Band Resolution: 400 - 425

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: Kaitlin C. Lenhart, Ph.D.

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".

Short Tandem Repeat

Requestor: WiCell Stem Cell Bank, WiCell
Samples Received: 23Aug21, 24Aug21, 25Aug21
STR Amplification Date: 21Aug21

Sample Name	STAN023i-41-1-DB31169 p12	NDO.SS.005-DB67687 p12	IMR90-TSC2Het-WB67712 p44	NDO.SS.007-DB67690 p15	NDO.SS.006-DB67688 p12
Label on tube	87772	87792	87793	87794	87805
FGA	[redacted]				
TPOX					
D8S1179					
vWA					
Amelogenin					
Penta_D					
CSF1PO					
D16S539					
D7S820					
D13S317					
D5S818					
Penta_E					
D18S51					
D21S11					
TH01					
D3S1358					
Allelic Polymorphisms	27	27	28	27	27
Matches*		See Matches Comment	See Matches Comment	See Matches Comment	See Matches Comment
Comments					

Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact info@wicell.org

**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: 23Aug21, 24Aug21, 25Aug21
STR Amplification Date: 21Aug21

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%.

Matches: Samples 87792, 87794, and 87805 are exact matches to each other and to 87925, 87924, 87923, 87894, 87893, and 87727. Sample 87793 is an exact match to 87887, 84550, 70422, 67351, 65704, 63444, 63441, 58649 and a 96.67% match to 63442 and 58502.

9/3/2021 X Callum Walker Tech #1 Characterization Signed by: Walker, Callum	9/3/2021 X Molly Miles Tech #2 Characterization Signed by: Miles, Molly	9/3/2021 X Dawn Graham QA Review Quality Assurance Signed by: Graham, Dawn

Raw data is available upon request.

Mycoplasma Assay Report

PCR-based assay performed by WiCell

WiCell

24Aug21

FORM SOP-83.01
Version 3.0

Sample Name	Result	Interpretation
NDO.SS.015-WB67711 p22 (87727)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
STAN023i-41-1-DB31169 p12 (87772)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
Positive (+) Control	Positive	
Negative (-) Control	Negative	

8/24/2021

X Callum Walker

Tech #1
Characterization
Signed by: Walker, Callum

8/24/2021

X Amber Kuhn

Tech #2
Characterization
Signed by: Kuhn, Amber

8/25/2021

X Andy Arntz

QA Review
Quality Assurance
Signed by: Arntz, Andy

A gel image is available upon request.

Native Product Sterility Report

STERIS

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

SAMPLE #: 21080662
DATE RECEIVED: 12-Aug-21
TEST INITIATED: 12-Aug-21
TEST COMPLETED: 26-Aug-21

SAMPLE NAME / DESCRIPTION:
CREM056i-BR39-1-WB67703
STAN017i-171-1-DB31059
STAN019i-177-1-DB31114
STAN028i-42-1-DB30917
STAN010i-041-2-DB31056
PENN071i-216-13-DB34946
STAN018i-171-2-DB31075
STAN020i-177-2-DB31121
STAN029i-42-2-DB30926
STAN023i-41-1-DB31169

UNIQUE IDENTIFIER: N/A

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 26 Aug 2021