

Thaw and Culture Details

Cell Line Name	STAN165i-352C5		
WiCell Lot Number	DB35979		
Provider	Stanford University – Laboratory of Dr. Thomas Quetermous		
Banked By	Icahn School of Medicine at Mount Sinai Stem Cell Core		
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 3 wells of a 6 well plate. WiCell recommends thawing using ROCK Inhibitor for best results.		
Culture Platform	Feeder Independent		
	Medium: mTeSR1™		
	Matrix: Matrigel®		
Protocol	WiCell Feeder Independent mTeSR1 [™] Protocol		
Passage Number	p13 These cells were cultured for 13 passages after colony picking prior to freeze. Add +1 to the passage number to best represent the overall passage number of the cells at thaw.		
Date Vialed	16-November-2015		
Vial Label	ISMMS 352i C5P13 ITA 111615		
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
	WiCell	SOP-CH-003	Expected karyotype	See Report
Karyotype by G-banding	Results: 46,XX Nonclonal findings: 47,XX,+22 Interpretation: This is a normal karyotype; no clonal abnormalities were detected at the stated band level of resolution. There is a 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.			
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 STR profile of deposited cell line	Pass
Sterility	Steris	ST/07	Negative	Pass
Mycoplasma	WiCell	SOP-CH-044	Negative	Pass

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The material provided under this certificate has been subjected to the tests specified and the results and data described herein are accurate based on WiCell's reasonable knowledge and belief. Appropriate Biosafety Level practices and universal precautions should always be used with this material. For clarity, the foregoing is governed solely by WiCell's Terms and Conditions of Service, which can be found at http://www.wicell.org/privacyandterms.



Testing Reported by Provider

Test Description	Method	Result
Mycoplasma	Lonza MycoAlert kit	Negative

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.

- RNA-Seq
- Whole Genome Sequencing
- Infinium[®] Expanded Multi-Ethnic Genotyping Array (MEGA^{EX})

Approval Date	Quality Assurance Approval
31-October-2016	4/10/2020 XIG Vici Quality Assurance Signed by: Gay, Jenna

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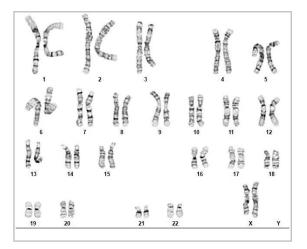


Chromosome Analysis Report: 080762

Date Reported: Tuesday, March 10, 2020 Cell Line: STAN165i-352C5-DB35979 Passage#: 15 Date of Sample: 3/4/2020 Specimen: Human IPSC Results: 46,XX Cell Line Sex: Female Reason for Testing: LOT_RELEASE

Investigator: WiCell Stem Cell Bank, WiCell

Nonclonal findings: 47,XX,+22



Cell: 19 Slide: G01 Slide Type: Karyotype Total Counted: 20 Total Analyzed: 8 Total Karyogrammed: 4 Band Resolution: 500 - 550

Interpretation:

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

There is a 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.

Completed by:	, CG(ASCP)		
Reviewed and Interpreted by:		, 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.

TRIPath

HISTOLOGY - IHC - MOLECULAR - IMAGING

Department of Pathology and Laboratory Medicine TRIP Laboratory (Molecular) https://research.pathology.wisc.edu/trip-home/ (608) 265-9168

Sample Report:

STAN165i-352C5-DB35979 p.15 (80762)

35.8 ng/µL, (A260/280=1.61) Sample Type: DNA Cell Count: N/A

Requestor: WiCell Research Institute **Characterization Department**

Short Tandem Repeat

Analysis

Your Lab Partner

characterization@wicell.org (608) 316-4145

Receive Date: 03/09/20 **Report Sent: 03/16/20** Assav Date: 03/10/20 File Name: STR 200311 wmr **Report Date: 03/16/20**

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
ТРОХ	6-13	been redacted to
D8S1179	7-18	protect donor
vWA	10-22	confidentiality. If
Amelogenin	X,Y	more information
Penta_D	2.2, 3.2, 5, 7-17	is required, please, contact
CSF1PO	6-15	WiCell's Technical
D16S539	5, 8-15	Support.
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 STAN165i-352C5-DB35979 p.15 (80762) DNA submitted by WiCell Characterization Department dated and received on 03/09/20, this sample (Label on Tube: STAN165i-352C5-DB35979 p.15 (80762)) defines the STR profile of the human cell line STAN165i-352C5 comprising 28 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: No STR polymorphisms other than those corresponding to the human STAN165i-352C5 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 STAN165i-352C5-DB35979 p.15 (80762) sample submitted corresponds to the STAN165i-352C5 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 cell lines is ~2-5%.

<i>RMB</i> Digitally Signed on 03/16/20	X WMR Digitally Signed on 03/16/20
, <i>BA</i>	, PhD, Director / Co-Director
TRIP Laboratory, Molecular	UWHC Molecular Diagnostics Laboratory / UWSMPH TRIP Laboratory

Testing was accomplished by analysis of human genetic polymorphisms at STR loci. This methodology has not yet been approved by the FDA and is for investigational use only. Acknowledge TRIP in your publications, posters & presentations. For details, see: https://research.pathology.wisc.edu/acknowledging-trip/ 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 https://www.wicell.org/media.acux/ca76d97c-862a-43f3-b02a-ab2d1e619100. 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.



Native Product Sterility Report



WiCell 504 S Rosa Road, Rm 101 Madison, WI 53719			SAMPLE # DATE RECEIVED TEST INITIATED TEST COMPLETED	: 05-Mar-20 : 06-Mar-20
SAMPLE NAME / DESCRIPTION:	MCW021i-5000174	3 WB67429		
	MCW084i-U2053	WB67427		
	MCW115i-U2143	WB67428		
	SCRP5402i	WB67430		
	MCW102i-UR117	WB67432		
	MCW108i-U2165	WB67431		
	CREM048i-BR3-1	DB66766		
	CREM049i-BR21-1	DB66767		
	CREM050i-BR23-1	DB66768		
	CREM061i-BT1-1	DB66780		
	CREM062i-BT2	DB66781		
	Elf1	WB67433		
	STAN133i-215C1	DB44608		
	STAN134i-215C2	DB44611		
	STAN291i-827C1	DB44304		
	STAN292i-827C2	DB44307		
	STAN251i-637C1	DB44371		
	STAN311i-906C1	DB44418		
	STAN312i-906C3	DB44421		
	STAN360i-465C2	DB44240		
	STAN088i-060C1	DB35739		
	STAN164i-352C1	DB35976		
	STAN165i-352C5	DB35979		
	STAN230i-533C1	DB35783		
	STAN231i-533C2	DB35786		
	(see remainder in c	omments)		
UNIQUE IDENTIFIER:	NA			

UNIQUE IDENTIFIER:

TEST RESULTS:

# Tested	# Positives (Growth)	- Control
30	1	2 Negatives

Native Product Sterility Report



TEST SUMMARY:	# Samples	Media Type	Volume (mL)	Incubation Temperature (° C)	Incubation Duration (Days)
	30	TSB	40	20-25	14
	30	FTG	40	30-35	14
REFERENCE:		Processed accord	ding to LAB-003: St	terility Test Procedu	Ire
PD #:		000053			
		USP - Direct Trar			
TEST METHODOLO	JGY:	USP - Direct Trar	ister		
COMMENTS:	Sample # 2003	0283			
COMMENTS.					
	Sample labeled	I ISMMS 827i C2P16	AP 030416 in Med	dia Type TSB is pos	sitive.
	Sample Name/I SCRP0302i	Description continue DB42682	d:		
	SCRP0104i	DB42002			
		DB42005			
	SCRP0202i				
	SCRP02021 SCRP0203i	DB42677			
		DB42677 DB42014	1		
	SCRP0203i		1	A. Contraction of the second s	2.0

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.



Mycoplasma Assay Report

PCR-based assay performed by WiCell WiCell 02Mar20

Sample Name	Result	Comments/Suggestions
mCh-GnRH-DB67394 (80646)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
STAN231i-533C2-DB35786 (80658)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
STAN230i-533C1-DB35783 (80659)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
STAN165i-352C5-DB35979 (80660)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
Positive (+) Control	Positive	
Negative (-) Control	Negative	

Reported by: Amber Kuhn, Assistant Research Specialist Reviewed by: Hannah Rueth, Assistant Research Speicalist

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A gel image is available upon request.