

Thaw and Culture Details

Cell Line Name	JFNY1					
WiCell Lot Number	DB29680					
Provider	Jain Foundation					
Banked By	Cellular Dynamics International					
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 1 well of a 6 well plate.					
Culture Platform	Feeder Independent					
	Medium: E8 Medium					
	Matrix: Matrigel®					
Protocol	WiCell Feeder Independent E8 Medium Protocol.					
Passage Number	p11 These cells were cultured for 11 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	21-August-2014					
Vial Label	MyCell® Products Cat #: iPSC Lot #: 01456.103.11 Passage #: 11 Storage Temp Liquid Nitrogen					
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
Post-Thaw Viable Cell	WiCell	SOP-CH-305	Recoverable attachment after	Pass
Recovery			passage	
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
Karyotype by G-banding	WiCell	SOP-CH-003	Report karyotype	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 This testing was performed prior to banking unless otherwise specified.

Test Description	Method	Result		
Genetic Analysis	Karyotype by G-Banding	Normal Karyotype		
Pluripotency	Multiplex RT-PCR to quantify endogenous expression of 7 genes. Scores generated from the analysis predict probability samples are iPSC-like.	Passing sample score ≥0.9		
Mycoplasma	Commercially available mycoplasma detection kit.	Negative		
Human Virus Testing	 HIV I/II CPT Code 87389; detects both antigen and antibodies for HIV I and HIV II. HBV CPT Code 87340; detects Hepatitis B surface antigen. HCV CPT Code 86803; Immunoassay detects Hepatitis C antibody. 	Donor samples tested negative for the following human viruses. HIV I HIV II HBV HCV		
Identity	Multiplex STR analysis of 9 commonly used alleles.	Match of iPS cell line to incoming donor material.		

Approval Date	Quality Assurance Approval
21-December-2015	4/6/2027 AMK Quality Assurance Signed by: Klade, Anjelica

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Short Tandem Repeat Analysis

Department of Pathology and Laboratory Medicine TRIP Laboratory (Molecular) http://www.pathology.wisc.edu/research/trip

Sample Report: 12334-STR Sample Name on Tube: 12334-STR 67.9 ng/μL, (A260/280=1.83) Sample Type: Cells Cell Count: ~2 million cells

Requestor: WiCell Research Institute Quality Department WiCell® info@wicell.org (888) 204-1782

Sample Date: N/A Receive Date: 03/20/17 Assay Date: 03/21/17 File Name: STR 170322 wmr Report Date: 03/24/17

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
TPOX	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	

<u>Results:</u> Based on the 12334-STR cells submitted by WiCell QA dated and received on 03/20/17, this sample (Label on Tube: 12334-STR) defines the STR profile of the human stem cell line JFNY1 comprising 25 allelic polymorphisms across the 15 STR loci analyzed.

<u>Interpretation:</u> No STR polymorphisms other than those corresponding to the human JFNY1 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 12334-STR sample submitted corresponds to the JFNY1 stem cell line and was not contaminated with any other human stem cells or a significant amount of mouse feeder layer cells.

<u>Sensitivity</u>: 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 03/24/17	X WMR Digitally Signed on 03/24/17
TRIP Laboratory, Molecular	PhD, Director / Co-Director 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: http://www.pathology.wisc.edu/research/trip/acknowledging TRIP agrees to maintain the confidentiality of any information provided to it in connection with its performance of this STR analysis on the same conditions as set forth in paragraph 2 of WiCell's Terms and Conditions of Service (http://www.wicell.org/media.acux/1a429b84-2b54-44a4-8ad8-5c05db93dd8a).

Sterility Report

Biotest Laboratories, Inc.

Making life-saving products possible

WiCell Research Institute, Inc. WiCell Quality Assurance			BIOTEST SAMPLE #	16032814			
504 South Rosa Road, Roc Madison, WI 53719	om 101		VALIDATION #	NG			
101001301, WI 337 19			TEST PURPOSE	NG			
PRODUCT	11586, UCSD004i-42-1	-DB25357 1158 5 11590, JFRBi		585, UCSD003i-16-2-DB25354 5344 11588, JFRBi3-DB29686 I-DB29680 11592, NSC-			
PRODUCT LOT	NA						
STERILE LOT	NA		BI LOT	NA			
STERILIZATION LOT	NA		BI EXPIRATION DATE NA				
STERILIZATION DATE	NA		DATE RECEIVED	2016-03-30			
STERILIZATION METHOD	STERILIZATION METHOD NA			2016-04-18			
SAMPLING BLDG / ROOM	NA		TEST COMPLETED 2016-05-02				
REFERENCE	Processed according	to LAB-003; S	Sterility Test Procedure				
				and 40 mL FTG. The samples nd were monitored for a			
	USP BI Manufacturers Sp Other	pecifications					
RESULTS Sterile	# POSITIVES 0	# TESTED 10	POSITIVE CONTRO NA	OL NEGATIVE CONTROL 2 Negatives			
COMMENTS NA							
	ersand	Circle March 19	DATE	02 MAY16			

Specific test results may not be indicative of the characteristics of any other samples from the same lot or similar lots. Liability is limited to the costs of the tests.

Biotest Laboratories = 9303 West Broadway Ave. = Brooklyn Park, MN 55445 = USA = (763) 315-1200

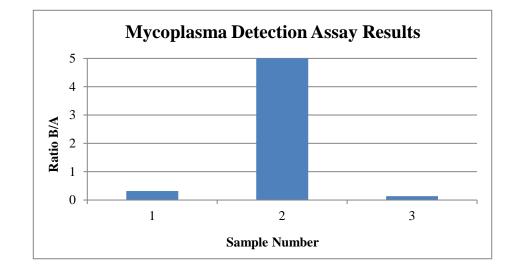
Form: M-002 rev. 11 Effective: 13JUN13 A subsidiary of STERIS Corporation



Mycoplasma Detection Assay Report Testing Performed by WiCell

Testing Performed by WiCell Lot Release March 08, 2017 FORM SOP-QU-004.01 Version F Edition 02 Reported by: OG Reviewed by: JB BD Monolight 180

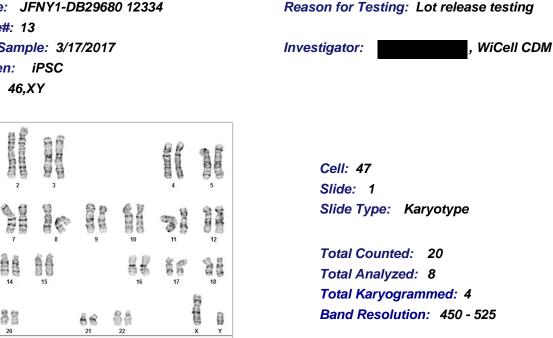
		Read	ing A	Α	Read	ling B	В	Ratio		
#	Sample Name	RLU1	RLU2	Ave	RLU1	RLU2	Ave	B/A	Result	Comments/Suggestions
1	JFNY1-DB29680 12334	254	271	262.5	82	86	84	0.32	Negative	
2	Positive (+) Control	263	261	262	31599	31918	31759	121.22	Positive	
3	Negative (-) Control	292	298	295	41	40	40.5	0.14	Negative	





Cell Line Gender: Male

Date Reported: Monday, March 27, 2017 Cell Line: JFNY1-DB29680 12334 Passage#: 13 Date of Sample: 3/17/2017 Specimen: iPSC Results: 46,XY



Interpretation:

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

Completed by: Reviewed and Interpreted by: A signed copy of this report is av	ntire, CG(A railable upon req	, 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 may not be relied upon by any other party without the prior written consent of the Director of the WiCell Cytogenetics Laboratory. The results 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.

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Testing Reported by Provider

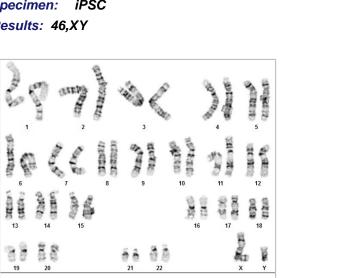
The testing reports following this placeholder are described on the certificate of analysis found in the beginning of this packet.



Cell Line Gender: Male

Investigator:

Date Reported: Friday, August 08, 2014 Cell Line: VIH0029 Passage#: 8 Date of Sample: 8/1/2014 Specimen: iPSC Results: 46,XY



Cell: 37	
Slide: 2	
Slide Type:	Karyotype

Reason for Testing: routine testing

CDI

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

Interpretation:

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

 Completed by:
 , CG(ASCP)

 Reviewed and Interpreted by:
 , 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".

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