

Cell Line Characteristics

This table contains general information regarding the cell line.

Cell Line Name	MIN22i-33113.2I
Cell Line Alias	MIN33113 2I
Cell Type	Induced Pluripotent Stem Cell
Phenotype	Control
Sex	Male
Age at Collection	42 years
Reprogramming Method	Sendai Virus
Tissue Origin	Skin Fibroblast
Provider	Massachusetts General Hospital

Lot Specific Information

The following culture information is for the specified lot.

WiCell Lot Number	WB19575
Banked By	WiCell
Thaw Recommendation	WiCell recommends thawing 1 vial into 3 wells of a 6 well plate.
Culture Platform	Feeder Independent
	Medium: mTeSR1
	Matrix: Matrigel
Protocol	WiCell Feeder Independent mTeSR1 Protocol
Passage Number	p19 These cells were cultured for 18 passages prior to freeze. WiCell adds +1 to the passage number at freeze so that the number on the vial best represents the overall passage number of the cells at thaw.
Date Vialed	16-May-2015
Vial Label	MIN22i-33113.2l p19 WB19575
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.

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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
Genetic Analysis by Karyotype	Normal
Embryoid Body Formation	RT(q)PCR (Brachyury, GATA2 - Meso; AFP, Sox17 - Endo; Pax6, MAP2 - Ectoderm)
Pluripotency Markers; AP, Oct4, Nanog, SSEA-3, SSEA-4, TRA1-60	All Markers Expressed

Testing Performed by WiCell

Test Description	Test Provider	Test Method	Test Specification	Result
Post-Thaw Viable Cell Recovery	WiCell	SOP-CH-305	 ≥ 15 Undifferentiated Colonies, ≤ 30% Differentiation and 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
Karyotype by G-banding	WiCell	SOP-CH-003	Expected karyotype	Pass

Date Available	Quality Assurance Approval		
13-October-2015	3/17/2016 Х АМК		
	AMK Quality Assurance Signed by:		

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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: 11526-STR Sample Name on Tube: 11526-STR 137.4 ng/µL, (A260/280=1.88) 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: 02/09/16 Assay Date: 02/23/16 File Name: STR 160229 wmr Report Date: 03/02/16

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 is			
Penta_D	2.2, 3.2, 5, 7-17	required, please,			
CSF1PO	6-15	contact <u>WiCell's</u> Technical Support.			
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				

<u>Results:</u> Based on the 11526-STR cells submitted by WiCell QA dated and received on 02/09/16, this sample (Label on Tube: 11526-STR) defines the STR profile of the human stem cell line MIN22i-33113.2i comprising 29 allelic polymorphisms across the 15 STR loci analyzed.

<u>Interpretation:</u> No STR polymorphisms other than those corresponding to the human MIN22i-33113.2i 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 11526-STR sample submitted corresponds to the MIN22i-33113.2i 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 03/02/16	X WMR	Digitally Signed on	03/02/16
TRIP Laboratory, Molecular	UWHC Molecular	PhD, Director / Co-Director r Diagnostics Laboratory / UWS	

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, WiCell Quality Assurance	Inc.	BIOTEST SAMPLE #	15071050
		VALIDATION #	NG
		TEST PURPOSE	NG
PRODUCT	Zeng02i-iPSH14-WB19497 11328 WIC01i-02-1c-WB18031 11329 WIP06i-iPSCas9Het-WB18995 113 WA01-WB16377 11331 MIN07i-33113.2D-WB19574 11332 MIN22i-33113.2I-WB19575 11333 MIN08i-33114.B-WB19546 11334 MIN09i-33114.C-WB19768 11335 MIN12i-33362.C-WB19545 11336 WC-24-02-DS-M-WB18754 1337		
PRODUCT LOT	NA		
STERILE LOT	NA	BI LOT	NA
STERILIZATION LOT	NA	BI EXPIRATION DATE	NA
STERILIZATION DATE	NA	DATE RECEIVED	2015-07-14
STERILIZATION METHOD	NA	TEST INITIATED	2015-07-15
SAMPLING BLDG / ROOM	NA	TEST COMPLETED	2015-07-29
REFERENCE	Processed according to LAB-003	Sterility Test Procedure	
	Ten (10) products were each div were then cultured at 20-25 C as minimum of 14 days.		
	USP BI Manufacturers Specifications Other		
RESULTS Sterile	# POSITIVES # TESTED 0 10	POSITIVE CONTF NA	OL NEGATIVE CONTROL 2 Negatives
COMMENTS NA			
REVIEWED BY			29JULIS
Specific test results may n	ot be indicative of the characteristics of any other samples	from the same lot or similar lots. Liability is I	mited to the costs of the tests.

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

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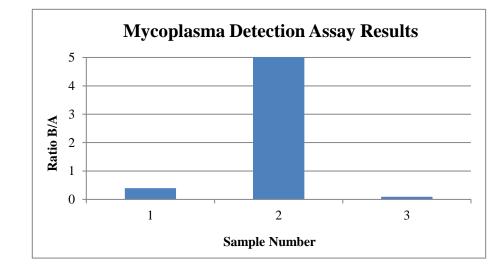
STERIS



Mycoplasma Detection Assay Report Testing Performed by WiCell

Testing Performed by WiCell Lot Release Test February 4th, 2016 FORM SOP-QU-004.01 Version E Edition 01 Reported by: SS Reviewed by: JB Berthold Flash n' Glo 539

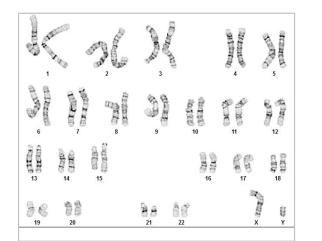
		Read	ing A	Α	Read	ing B	В	Ratio		
#	Sample Name	RLU1	RLU2	Ave	RLU1	RLU2	Ave	B/A	Result	Comments/Suggestions
1	MIN22i-33113.2I-WB19575 11526	88	87	87.5	36	33	34.5	0.39	Negative	
2	Positive (+) Control	115	119	117	9701	9657	9679	82.73	Positive	
3	Negative (-) Control	247	241	244	21	23	22	0.09	Negative	





Wednesday, February 10, Cell Line Gender: Male Date Reported: 2016 Cell Line: MIN22i-33113.2i-WB19575 11526 Reason for Testing: Lot release testing Passage#: 19 Date of Sample: 2/5/2016 Investigator: Specimen: iPSC Results: 46,XY

Nonclonal findings: 47,XY,+17



Cell: 14	
Slide: 1	
Slide Type:	Karyotype

WiCell CDM

Total Counted: 40 Total Analyzed: 8 Total Karyogrammed: 4 Band Resolution: 450 - 525

Interpretation:

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

There is one nonclonal finding, listed above. Standard analysis requires that chromosomes are counted in twenty cells. Twenty additional cells were examined with no further evidence of this nonclonal aberration. Nonclonal findings likely result from technical artifact, but may be due to a developing clonal abnormality or to low-level mosaicism.

Completed By: Reviewed and Interpreted By:	3	CG(ASCP) , PhD, FACMG	
A signed copy of this report is a	vailable upon r	equest.	
Date:	Sent By:	Sent To:	QC Review By:
			ies. The size of structural abnormality that can be detected t. 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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