

Thaw and Culture Details

Cell Line Name	UCSD034i-4-3
WiCell Lot Number	WB66852
Provider	University of California, San Diego – Dr. Kelly Frazer
Banked By	WiCell
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 3 wells of a 6 well plate.
Culture Platform	Feeder Independent
	Medium: mTeSR™1
	Matrix: Matrigel®
Protocol	WiCell Feeder Independent mTeSR [™] 1 Protocol
Passage Number	p22 These cells were cultured for 21 passages prior to freeze and post reprogramming. WiCell adds +1 to the passage number at freeze to best represent what the overall passage number of the cells at thaw. Plated cells at thaw should be labeled passage 22.
Date Vialed	15-June-2018
Vial Label	UCSD034i-4-3 p22 WB66852
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				
		<i>Results:</i> 46,XY,i(20)(q10)[16]/46,XY[4]						
Karyotype by G-banding			There is an isochromosome of the lo					
Raryotype by G-banding			ned. This imbalance results in trisor					
			a recurrent acquired abnormality in					
	cell type. No other clonal a	abnormalities were det	ected at the stated band level of res	solution.				
			≥ 15 Undifferentiated Colonies,					
Post-Thaw Viable Cell	WiCell	SOP-CH-305	≤ 30% Differentiation and	Pass				
Recovery	Wideli		recoverable attachment after	1 435				
			passage					
Identity by STR	UW Translational	PowerPlex 16 HS						
	Research Initiatives in	System by	Defines profile	Pass				
	Pathology Laboratory	Promega						
Sterility	Steris	ST/07 Negative F		Pass				
Mycoplasma	WiCell	SOP-QU-004	Negative	Pass				

©2018 WiCell Research Institute

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

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. - Illumina® HumanCoreExome BeadChip Array

- RNA-Seq
- Flow Cytometry (SSEA-4, Tra 1-81)
- Infinium® Expanded Multi-Ethnic Genotyping Array (MEGAEX)

Approval Date	Quality Assurance Approval			
22-July-2018	7/22/0018 XG Quality Assurance Signed by Gay, Janna			

©2018 WiCell Research Institute



Date Reported: Friday, June 29, 2018 Cell Line Sex: Male Cell Line: UCSD034i-4-3-WB66852 13821 Reason for Testing: lot release testing Passage#: 22 Date of Sample: 6/22/2018 Investigator: , WiCell Specimen: Human IPS Results: 46,XY,i(20)(q10)[16]/46,XY[4] **Cell: 10** Slide: G02 Slide Type: Karyotype Total Counted: 20 72 Total Analyzed: 9 Total Karyogrammed: 6 Band Resolution: 350 - 475 86+ 8 88 88 ē

Interpretation:

This is an abnormal karyotype. There is an isochromosome of the long (q) arm of chromosome 20 in sixteen of twenty cells examined. This imbalance results in trisomy for 20q and monosomy for 20p. Gain of chromosome 20q is a recurrent acquired abnormality in cultures of this cell type. No other 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".

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.



HISTOLOGY - IHC - MOLECULAR - IMAGING

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

Sample Report: 13821-STR Sample Name on Tube: 13821-STR 59.6 ng/µL, (A260/280=1.86) Sample Type: Cells Cell Count: ~2 million cells

Requestor: WiCell Research Institute **Quality Department**

Short Tandem Repeat

Analysis

info@wicell.org (888) 204-1782

Sample Date: N/A **Receive Date:** 07/02/18 Assay Date: 07/09/18 File Name: STR 1820710 wmr **Report Date:** 07/16/18

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				
TPOX	6-13	information has				
D8S1179	7-18	been redacted to protect donor				
vWA	10-22	confidentiality. If				
Amelogenin	X,Y	more information				
Penta D	2.2, 3.2, 5, 7-17	is required,				
CSF1PO	6-15	please, contact				
D16S539	5, 8-15	WiCell's Technical Support.				
D7S820	0 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 13821-STR cells submitted by WiCell QA dated and received on 07/02/18, this sample (Label on Tube: 13821-STR) defines the STR profile of the human stem cell line UCSD034i-4-3 comprising 29 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: No STR polymorphisms other than those corresponding to the human UCSD034i-4-3 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 13821-STR sample submitted corresponds to the UCSD034i-4-3 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 07/16/18	X WMR Digitally Signed on 07/16/18
, BA	, PhD, Director / Co-Director
TRIP Laboratory Molecular	IIWHC Molecular Diagnostics Laboratory / IIWSMPH TRIP Laborato

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).



Native Product Sterility Report



WiCell 504 S Rosa Rd, Rm 101 Madison, WI 53719	SAMPLE #: DATE RECEIVED: TEST INITIATED: TEST COMPLETED:	18061640 21-Jun-18 26-Jun-18 10-Jul-18
SAMPLE NAME / DESCRIPTION:	UCSD116i-71-1-WB66814 13810 UCSD034i-4-3-WB66852 13811 CREM005i-SS2-1GAG-DB66769 13812 CREM037i-SA53-1-DB48093 13813 CREM042i-SA209-1-DB48102 13814 CREM044i-SA50-1-DB48109 13815 CREM046i-SA138-1-DB48115 13816 CREM047i-SA170-1-DB48118 13817 CREM051i-BR25-1-DB66770 13818 CREM052i-BR29-1-DB66771 13819	
UNIQUE IDENTIFIER:	NA	
PRODUCT REGISTRATION:	Other: Human IPS cells	

TEST RESULTS:	# T o obs.d	# Positives	
	# Tested	(Growth)	- Control
	10	0	2 Negatives

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: METHOD VALIDATION / PD #: **TEST METHODOLOGY:**

Processed according to LAB-003: Sterility Test Procedure 000053 **USP** - Direct Transfer

COMMENTS: NA **REVIEWED BY**

DATE 16JUL 18

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.



Mycoplasma Detection Assay Report Testing Performed by WiCell

Testing Performed by WiCell Lot Release Testing June 22, 2018 FORM SOP-QU-004.01 Version G Edition 02 Reported by: AP 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	UCSD034i-4-3-WB66852 13821	192	205	198.5	88	97	92.5	0.47	Negative	
2	Positive (+) Control	490	497	493.5	24277	24371	24324	49.29	Positive	
3	Negative (-) Control	662	667	664.5	79	75	77	0.12	Negative	

