

Thaw and Culture Details

Cell Line Name	UCSD236i-APP1-1
WiCell Lot Number	DB26819
Provider	University of California, San Diego – Laboratory of Dr. Lawrence Goldstein
Banked By	University of California, San Diego – Laboratory of Dr. Lawrence Goldstein
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 4 wells of a 6 well plate. WiCell recommends thawing using ROCK Inhibitor for best results.
Culture Platform	Feeder Dependent
	Medium: hESC Medium (KOSR)
	Matrix: MEF
Protocol	WiCell Feeder Dependent Protocol
Passage Number	p16 These cells were cultured for 15 passages prior to freeze and post reprogramming. The Provider adds +1 to the passage number to best represent the overall passage number of the cells at thaw.
Date Vialed	16-July-2015
Vial Label	iPS APP1.1 p16 7/16/15 ch thaw in 6 well
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 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 profile	Fail
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

Testing Reported by Provider

For more information, publication and dbGaP links, where available, are provided on the cell line specific web page on the WiCell website.

Test Description	Method	Result				
Genetic Analysis	G-Band Karyotype	Maintained euploid karyotype				
Pluripotency	FACS	Expressed the pluripotency-associated proteins NANOG and TRA1-81. See the publication for Mean % TRA1-81.				
Teratoma	Injected into nude rats	Differentiated into cells of ectodermal, mesodermal, and endodermal lineages in vitro.				

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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.



Approval Date	Quality Assurance Approval			
30-JUNE-2016	9/29/0017 X JKG			
	,iKo Quality Assurance Signed by: Gay, Jenna			

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Date Reported: Thursday, November 10, Cell Line Gender: Male 2016 Cell Line: UCSD236i-APP1-1-DB26819 11889 Reason for Testing: lot release testing Passage#: 19 Date of Sample: 10/28/2016 Investigator: WiCell CDM Specimen: iPSC Results: 46,XY NO CON Cell: 24 Slide: 3 Slide Type: Karyotype Total Counted: 20 10 Total Analyzed: 8 18 Total Karyogrammed: 4 Band Resolution: 425 - 525 8 10

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		ASCP) , PhD, FACMG quest.	
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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Short Tandem Repeat Analysis

WiCell® info@wicell.org (888) 204-1782

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

Sample Report: 11889-STR Sample Name on Tube: 11889-STR 39.1 ng/μL, (A260/280=1.57) Sample Type: Cells Cell Count: ~2 million cells

Requestor: WiCell Research Institute Quality Department Sample Date: N/A Receive Date: 11/07/16 Assay Date: 11/08/16 File Name: 161116 blb Report Date: 11/16/16

STR Locus	ocus STR Genotype Repeat #						
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						
D18851	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 11889-STR cells submitted by WiCell QA dated and received on 11/07/16, this sample (Label on Tube: 11889-STR) defines the STR profile of the human stem cell line UCSD236i-APP1-1 comprising 24 allelic polymorphisms across the 15 STR loci analyzed.

<u>Interpretation:</u> No STR polymorphisms other than those corresponding to the human UCSD236i-APP1-1 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 11889-STR sample submitted corresponds to the UCSD236i-APP1-1 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 11/17/16	X WMR Digitally Signed on 11/17/16
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

Making life-saving products possible

WiCell Research Institute, WiCell Quality Assurance	Inc.	BIOTEST SAMPLE #	16100501				
WICEI Addiny Association		VALIDATION #	NG				
		TEST PURPOSE	NG				
PRODUCT	R366.4 WB47080 11873, MIN08i-33114.B WB47099 11874, WC021i-SMA-GM15 WB4707 11875, WC022i-SMA-GM77 WB47072 11876, WC023i-SMA-GM232 WB47173 11877, UCSD236i-APP1-1 DB26819 11878, UCSD224i-NDC1-2 DB26664 11879, UCSD225i- NDC1-3 DB26676 11880, UCSD227i-NDC2-2 DB26792 11881, UCSD228i-NDC2-3 DB26795 11882						
PRODUCT LOT	NA						
STERILE LOT	NA	BI LOT	NA				
STERILIZATION LOT	NA	BI EXPIRATION DATE	NA				
STERILIZATION DATE	NA	DATE RECEIVED	2016-10-06				
STERILIZATION METHOD	NA	TEST INITIATED	2016-10-21				
SAMPLING BLDG / ROOM	NA	TEST COMPLETED	2016-11-04				
REFERENCE	ERENCE Processed according to LAB-003: Sterility Test Procedure						
	Ten (10) products were each div were then cultured at 20-25 C ar minimum of 14 days.		· · ·				
	USP BI Manufacturers Specifications						
RESULTS Sterile	# POSITIVES # TESTED 0 10	POSITIVE CONTF NA	ROL NEGATIVE CONTROL 2 Negatives				
COMMENTS NA REVIEWED BY		DATE	D9NOUIG				
	to be indicative of the characteristics of any other samples f neasurement associated with the measurement result report						
Biotest Labora	tories = 9303 West Broadway Ave. = Bro	-	a (763) 315-1200				
Form; M-002 rev., 12	A subsidiary of STERIS	S Corporation					

STERIS



Mycoplasma Detection Assay Report

Testing Performed by WiCell Lot Release Test October 7th, 2016 FORM SOP-QU-004.01 Version F Edition 01 Reported by: SM Reviewed by: JB Berthold Flash n' Glo 539

		Reading A		Α	Read	ling B	В	Ratio		
#	Sample Name	RLU1	RLU2	Ave	RLU1	RLU2	Ave	B/A	Result	Comments/Suggestions
1	UCSD236i-APP1-1-DB26819 11889	336	316	326	128	124	126	0.39	Negative	
2	Positive (+) Control	118	121	119.5	10490	10507	10499	87.85	Positive	
3	Negative (-) Control	212	209	210.5	23	25	24	0.11	Negative	

