Thaw and Culture Details

Cell Line Name	WC023i-SMA-GM232
WiCell Lot Number	WB47173
Provider	University of Wisconsin – Laboratory of Dr. Su-Chun Zhang
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	p33 These cells were cultured for 32 passages after colony picking prior to freeze. WiCell adds +1 to the passage number to best represent the overall passage number of the cells at thaw.
Date Vialed	23-September-2016
Vial Label	WC023i-SMA-GM232 p33 WB47173
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
Karyotype by G-banding	WiCell	SOP-CH-003	Expected karyotype	Pass
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

Testing Reported by Provider

The provider has published the following testing and results for this cell line. A link to the relevant publication is provided on the cell line specific web page on the WiCell website.

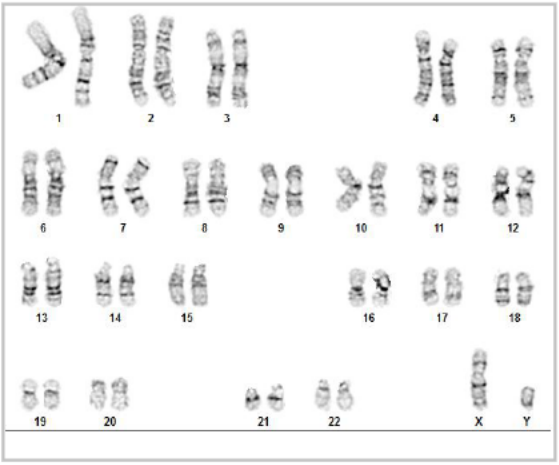
Test Description	Result
Karyotype by G-banding	Normal karyotype

Approval Date	Quality Assurance Approval
18-January-2018	1/18/2018 X JKG JKG Quality Assurance Signed by: Gay, Jenna

Chromosome Analysis Report: 047593

Date Reported: Monday, October 10, 2016
Cell Line: WC023i-SMA-GM232-WB47173 11872
Passage#: 33
Date of Sample: 10/4/2016
Specimen: iPSC
Results: 46,XY

Cell Line Gender: Male
Reason for Testing: Lot release testing
Investigator: [redacted] WiCell CDM



Cell: 14
Slide: 2
Slide Type: Karyotype

Total Counted: 20
Total Analyzed: 8
Total Karyogrammed: 4
Band Resolution: 450 - 550

Interpretation:

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

Completed by: [redacted] CG(ASCP)
Reviewed and Interpreted by: [redacted] 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 may not be relied upon by any other party without the prior written consent of the Director of the WiCell Cytogenetics Laboratory. The resu lts 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.

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.

Short Tandem Repeat Analysis

School of Medicine and Public Health
UNIVERSITY OF WISCONSIN-MADISON
Department of Pathology and Laboratory Medicine
TRIP Laboratory (Molecular)
http://www.pathology.wisc.edu/research/trip

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

Sample Report:
11872-STR
Sample Name on Tube: 11872-STR
79.7 ng/µL, (A260/280=1.81)
Sample Type: Cells
Cell Count: ~2 million cells

Requestor:
WiCell Research Institute
Quality Department

Sample Date: N/A
Receive Date: 10/10/16
Assay Date: 10/11/16
File Name: 161013 str jam
Report Date: 10/13/16

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 been redacted to protect donor confidentiality. If more information is required, please, contact WiCell's Technical Support.
TPOX	6-13	
D8S1179	7-18	
vWA	10-22	
Amelogenin	X,Y	
Penta_D	2.2, 3.2, 5, 7-17	
CSF1PO	6-15	
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	

Results: **Based on the 11872-STR cells submitted by WiCell QA dated and received on 10/10/16, this sample (Label on Tube: 11872-STR) defines the STR profile of the human stem cell line WC023i-SMA-GM232 comprising 28 allelic polymorphisms across the 15 STR loci analyzed.**

Interpretation: **No STR polymorphisms other than those corresponding to the human WC023i-SMA-GM232 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 11872-STR sample submitted corresponds to the WC023i-SMA-GM232 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 10/14/16**
[redacted]
TRIP Laboratory, Molecular

X *WMR* **Digitally Signed on 10/14/16**
[redacted] *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
[redacted]

BIOTEST SAMPLE # 16100501

VALIDATION # NG

TEST PURPOSE NG

PRODUCT	R366.4 WB47080 11873, MIN08i-33114.B WB47099 11874, WC021i-SMA-GM15 WB47071 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
STERILIZATION LOT	NA
STERILIZATION DATE	NA
STERILIZATION METHOD	NA
SAMPLING BLDG / ROOM	NA

BI LOT	NA
BI EXPIRATION DATE	NA
DATE RECEIVED	2016-10-06
TEST INITIATED	2016-10-21
TEST COMPLETED	2016-11-04

REFERENCE: Processed according to LAB-003: Sterility Test Procedure

Ten (10) products were each divided between 40 mL TSB and 40 mL FTG. The samples were then cultured at 20-25 C and 30-35 C respectively and were monitored for a minimum of 14 days.

☒ USP
☐ BI Manufacturers Specifications
☐ Other

RESULTS	# POSITIVES	# TESTED	POSITIVE CONTROL	NEGATIVE CONTROL
Sterile	0	10	NA	2 Negatives

COMMENTS NA

REVIEWED BY [redacted] DATE 09NOV16

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

#	Sample Name	Reading A		A Ave	Reading B		B Ave	Ratio B/A	Result	Comments/Suggestions
		RLU1	RLU2		RLU1	RLU2				
1	WC023i-SMA-GM232-WB47173 11872	88	90	89	30	32	31	0.35	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