

Thaw and Culture Details

| Cell Line Name | MCW093i-40000435 | | | | |
|----------------------------------|---|--|--|--|--|
| WiCell Lot Number | WB67168 | | | | |
| Provider | Medical College of Wisconsin – Laboratory of Dr. Ulrich Broeckel | | | | |
| 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: TeSR™-E8™ | | | | |
| | Matrix: Matrigel® | | | | |
| Protocol | WiCell Feeder Independent E8 Medium Protocol | | | | |
| Passage Number | p16 These cells were cultured for 15 passages prior to freeze and post colony selection. WiCell adds +1 to the passage number at freeze to best represent the overall passage number of the cells at thaw. Plated cells at thaw should be labeled passage 16. | | | | |
| Date Vialed | 27-April-2019 | | | | |
| Vial Label | MCW093i-40000435 p16 WB67168 | | | | |
| 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 | See Report |
| Post-Thaw Viable Cell Recovery | WiCell | SOP-CH-305 | ≥ 15 Undifferentiated Colonies prior to passage, ≤ 30% Differentiation prior to passage, and recoverable attachment after passage | Pass |
| Identity by STR | UW Translational Research Initiatives in Pathology Laboratory | PowerPlex 16 HS System by Promega | Defines STR profile of deposited cell line | Pass |
| Sterility | Steris | ST/07 | Negative | Pass |
| Mycoplasma | WiCell | SOP-CH-044 | Negative | Pass |

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.

- Tra1-60 marker expression
- mRNA expression by gPCR
- Infinium® Expanded Multi-Ethnic Genotyping Array (MEGAEX)



| Approval Date | Quality Assurance Approval | |
|------------------|--|--|
| 21-November-2019 | 11/21/2019 X JKG JKG Quality Assurance Signed by Gay, Jenna | |



Chromosome Analysis Report: 078991

Date Reported: Wednesday, November 13, 2019 Cell Line Sex: Female

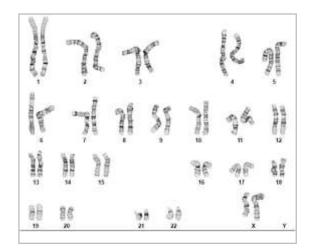
Cell Line: MCW093i-40000435-WB67168 15115 Reason for Testing: Lot Release Testing

Passage#: 16

Date of Sample: 11/5/2019 Investigator: WiCell

Results: 46,XX

Specimen: Human IPSC



Cell: 36 Slide: G01

Slide Type: Karyotype

Total Counted: 20
Total Analyzed: 8

Total Karyogrammed: 4

Band Resolution: 500 - 575

QC Review By: ____

Interpretation:

Date:_

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

Sent By:____ Sent To:____

| Completed by: | , CG(ASCP) |
|------------------------------|------------|
| Reviewed and Interpreted by: | , Ph.D. |

| 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.



TRIP Laboratory (Molecular)

Short Tandem Repeat Analysis HISTOLOGY - IHC - MOLECULAR - IMAGING



characterization@wicell.org

(608) 316-4145

Sample Report:

(608) 265-9168

15115-STR

Sample Name on Tube: 15115-STR

Department of Pathology and Laboratory Medicine

https://research.pathology.wisc.edu/trip-home/

 $59.0 \text{ ng/}\mu\text{L}$, (A260/280=1.80)

Sample Type: Cells

Cell Count: ~2 million cells

Requestor:

WiCell Research Institute Quality Assurance Department **Receive Date:** 11/11/19 **Report Sent:** 11/19/19 **Assav Date:** 11/13/19

File Name: STR 191113 wmr

Report Date: 11/19/19

| 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, |
| CSF1PO | 6-15 | please, contact 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 | |

Results: Based on the 15115-STR cells submitted by WiCell QA dated and received on 11/11/19, this sample (Label on Tube: 15115-STR) defines the STR profile of the human cell line MCW093i-40000435 comprising 27 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: No STR polymorphisms other than those corresponding to the human MCW093i-40000435 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 15115-STR sample submitted corresponds to the MCW093i-40000435 cell line and was not contaminated with any other human 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 cell lines

| X RMB | Digitally Signed on | 11/19/19 | X WMR | | Digitally Signed or | n 1 | 1/19/19 | |
|---------|-----------------------------|----------|-----------|-----|---|-----|------------|----------|
| TRIP La | , BA boratory, Molecular | | UWHC Mole | r e | hD, Director / Co-Dir nostics Laboratory / U | | PH TRIP La | boratory |

Native Product Sterility Report



SAMPLE #:

19050849

WiCell

504 S Rosa Road, Rm 101

Madison, WI 53719

DATE RECEIVED:

09-May-19

TEST INITIATED:

15-May-19

TEST COMPLETED:

29-May-19

SAMPLE NAME / DESCRIPTION:

MCW057i-A3286 B2M-/Etrimer Elf1

WB67153 WB67154 14647 14648

MCW033i-A7195

WB67156

14649

MCW061i-40000329

WB67157 WB67158 14650

MCW059i-40001067 MCW070i-40002330

WB67159

14651 14652

B2M-/- Elf1

WB67160

14653 14654

JHU210i WB67162 MCW052i-40001760

WB67163

14655

B2M-/Edimer Elf1 MCW063i-40000190 WB67155 WB67164 14656 14657

MCW063i-40000190 MCW065i-40001296

B2M-/Edimer(preCre)Elf1

WB67165

14658 14659

MCW069i-40000268 MCW093i-40000435 WB67167

WB67166

14660

MCW093i-40000435 PACS1003i-GM27161

WB67168 DB67161 14661 14662

STAN011i-123-1

DB31129

14663

STAN012i-123-2 STAN015i-178-1 DB31135 DB31094 14664 14665

STAN016i-178-2

DB31107

14666

UNIQUE IDENTIFIER:

NA

TEST RESULTS:

| # Tested | # Positives (Growth) | - Control |
|----------|-------------------------|-------------|
| 20 | 0 | 2 Negatives |

TEST SUMMARY:

| # Samples | Media Type | Volume (mL) | Incubation Temperature (° C) | Incubation Duration (Days) |
|-----------|------------|-------------|------------------------------------|----------------------------------|
| 20 | TSB | 40 | 20-25 | 14 |
| 20 | FTG | 40 | 30-35 | 14 |

REFERENCE:

Processed according to LAB-003: Sterility Test Procedure

PD #:

000053

TEST METHODOLOGY:

USP - Direct Transfer

STERIS Laboratories 9303 West Broadway Ave Brooklyn Park, MN 55445 LAB-003 rev 32 Form 5 Effective: Nov 29, 2018 Page 1 of 2

Native Product Sterility Report



| C | OMN | /FN | TS | • | NA |
|----------|-----|--------|----|---|-----|
| \smile | | A111.A | | • | 14/ |

| REVIEWED BY | Man | DATE 29MAV19 |
|-------------|---|--------------|
| | *************************************** | |

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. Results applied to samples as received.

Mycoplasma Assay Report

FORM SOP-CH-048.01 Version A Edition 01

PCR-based assay performed by WiCell
WiCell
05Nov19

| Sample Name | Result | Comments/Suggestions |
|--|----------|---|
| MCW093i-40000435-WB67168 15115 (78976) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MCW083i-40000695-WB67174 15114 (78977) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MCW074i-40002460-WB67203 15118 (78978) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MCW070i-40002330-WB67159 15117 (78979) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| WTB-DB66964 15116 (78980) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| WC051i-FX08-23-WB67327 15107 (78981) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| HNEpc p3, ARPE-19 p3 C166 p10 INC 124 | Nagativa | |
| 11/4/19 Empirico (78982) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| pHTM p5, HEK293 p5, 3T3-LI p7 INC124 11/4/19 | Nagativa | |
| Empirico (78983) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| Positive (+) Control | Positive | |
| Negative (-) Control | Negative | |

Reported by: Molly Miles, Cell Culture Specialist Reviewed by: Katie Remondini, Cell Culture Specialist

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A gel image is available upon request.