

Thaw and Culture Details

| Cell Line Name | STAN291i-827C1 |
|-------------------------------------|---|
| WiCell Lot Number | DB44304 |
| Provider | Stanford University – Laboratory of Dr. Thomas Quetermous |
| Banked By | WiCell |
| Thaw and Culture Recommendations | WiCell recommends thawing 1 vial into 3 wells of a 6 well plate. WiCell recommends thawing using ROCK Inhibitor for best results. |
| Culture Platform | Feeder Independent |
| | Medium: mTeSR1™ |
| | Matrix: Matrigel® |
| Protocol | WiCell Feeder Independent mTeSR1 [™] Protocol |
| Passage Number | p16 These cells were cultured for 16 passages after colony picking prior to freeze. Add +1 to the passage number to best represent the overall passage number of the cells at thaw. |
| Date Vialed | 04-March-2016 |
| Vial Label | ISMMS 827i C1P16 AP 030416 |
| 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 | 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

| Test Description | Method | Result |
|------------------|---------------------|----------|
| Mycoplasma | Lonza MycoAlert kit | Negative |

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.

- RNA-Seq

- Whole Genome Sequencing
- Infinium[®] Expanded Multi-Ethnic Genotyping Array (MEGA^{EX})

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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 |
|------------------|--|
| 08-November-2016 | 4/23,0020 XIG Quality Assurance Signed by: Gay, Jenna |

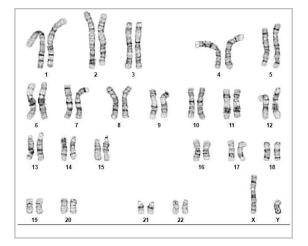
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Chromosome Analysis Report: 080500

Date Reported: Tuesday, February 25, 2020Cell Line Sex: MaleCell Line: STAN291i-827C1-DB44304Reason for Testing: LOT_RELEASEPassage#: 18Investigator: WiCell SCB, WiCellDate of Sample: 2/18/2020Investigator: WiCell SCB, WiCellSpecimen: Human IPSCResults: 46,XY



Cell: 9 Slide: G03 Slide Type: Karyotype Total Counted: 20 Total Analyzed: 9 Total Karyogrammed: 4 Band Resolution: 450 - 500

Interpretation:

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

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.



Analysis

HISTOLOGY - IHC - MOLECULAR - IMAGING

Department of Pathology and Laboratory Medicine TRIP Laboratory (Molecular) https://research.pathology.wisc.edu/trip-home/ (608) 265-9168

Sample Report:

Requestor:

Short Tandem Repeat

WiCell Research Institute

Characterization Department

STAN291i-827C1-DB44304 p.18 (80500) D02 W Sample Name on Tube: stan291i-827C1-DB44304 p.18 (80500) D02 33.9 ng/μL, (A260/280=1.48) Sample Type: DNA

Cell Count: N/A

| WiCell |
|------------------|
| Your Lab Partner |

characterization@wicell.org (608) 316-4145

Receive Date: 02/24/20 **Report Sent:** 03/04/20 **Assay Date:** 02/25/20 **File Name:** STR 200226 wmr **Report Date:** 02/28/20

| 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, 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 | |
| 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 STAN291i-827C1-DB44304 p.18 (80500) D02 DNA submitted by WiCell Characterization Department dated and received on 02/24/20, this sample (Label on Tube: STAN291i-827C1-DB44304 p.18 (80500) defines the STR profile of the human cell line STAN291i-827C1 comprising 29 allelic polymorphisms across the 15 STR loci analyzed.

<u>Interpretation</u>: No STR polymorphisms other than those corresponding to the human STAN291i-827C1 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 STAN291i-827C1-DB44304 p.18 (80500) sample submitted corresponds to the STAN291i-827C1 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 cell lines is ~2-5%.

| X RMB Digitally Signed on 02/28/20 | X WMR Digitally Signed on 02/28/20 |
|------------------------------------|--|
| , BA | , PhD, Director / Co-Director |
| TRIP Laboratory, Molecular | 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: https://research.pathology.wisc.edu/acknowledging-trip/ 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 https://www.wicell.org/media.acux/ca76d97c-862a-43f3-b02a-ab2d1e619100. 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.

Native Product Sterility Report



| WiCell 504 S Rosa Road, Rm 101 Madison, WI 53719 | | | SAMPLE # DATE RECEIVED TEST INITIATED TEST COMPLETED | : 05-Mar-20 : 06-Mar-20 |
|--|---------------------|-----------|---|----------------------------|
| SAMPLE NAME / DESCRIPTION: | MCW021i-5000174 | 3 WB67429 | | |
| | MCW084i-U2053 | WB67427 | | |
| | MCW115i-U2143 | WB67428 | | |
| | SCRP5402i | WB67430 | | |
| | MCW102i-UR117 | WB67432 | | |
| | MCW108i-U2165 | WB67431 | | |
| | CREM048i-BR3-1 | DB66766 | | |
| | CREM049i-BR21-1 | DB66767 | | |
| | CREM050i-BR23-1 | DB66768 | | |
| | CREM061i-BT1-1 | DB66780 | | |
| | CREM062i-BT2 | DB66781 | | |
| | Elf1 | WB67433 | | |
| | STAN133i-215C1 | DB44608 | | |
| | STAN134i-215C2 | DB44611 | | |
| | STAN291i-827C1 | DB44304 | | |
| | STAN292i-827C2 | DB44307 | | |
| | STAN251i-637C1 | DB44371 | | |
| | STAN311i-906C1 | DB44418 | | |
| | STAN312i-906C3 | DB44421 | | |
| | STAN360i-465C2 | DB44240 | | |
| | STAN088i-060C1 | DB35739 | | |
| | STAN164i-352C1 | DB35976 | | |
| | STAN165i-352C5 | DB35979 | | |
| | STAN230i-533C1 | DB35783 | | |
| | STAN231i-533C2 | DB35786 | | |
| | (see remainder in c | omments) | | |
| UNIQUE IDENTIFIER: | NA | | | |

UNIQUE IDENTIFIER:

TEST RESULTS:

| # Tested | # Positives (Growth) | - Control |
|----------|-------------------------|-------------|
| 30 | 1 | 2 Negatives |

Native Product Sterility Report



| TEST SUMMARY: | # Samples | Media Type | Volume (mL) | Incubation Temperature (° C) | Incubation Duration (Days) |
|----------------|----------------------------|---------------------------------|---------------------|--|----------------------------------|
| | 30 | TSB | 40 | 20-25 | 14 |
| | 30 | FTG | 40 | 30-35 | 14 |
| REFERENCE: | | Processed accord | ding to LAB-003: St | terility Test Procedu | Ire |
| PD #: | | 000053 | | | |
| | | | | | |
| | | USP - Direct Trar | | | |
| TEST METHODOLO | JGY: | USP - Direct Trar | ister | | |
| | | | | | |
| COMMENTS: | Sample # 2003 | 0283 | | | |
| COMMENTS. | | | | | |
| | Sample labeled | I ISMMS 827i C2P16 | AP 030416 in Med | dia Type TSB is pos | sitive. |
| | Sample Name/I SCRP0302i | Description continue DB42682 | d: | | |
| | SCRP0104i | DB42002 | | | |
| | | DB42005 | | | |
| | SCRP0202i | | | | |
| | SCRP02021 SCRP0203i | DB42677 | | | |
| | | DB42677 DB42014 | 1 | | |
| | SCRP0203i | | 1 | A. Contraction of the second s | 2.0 |

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

PCR-based assay performed by WiCell WiCell 19Feb20

| Sample Name | Result | Comments/Suggestions |
|----------------------------------|----------|---|
| STAN206i-459C1-WB67418 (80474) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MCW084i-U2053-WB67427 (80475) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MCW098i-40002583-WB67417 (80486) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| STAN093i-081C1-DB35964 (80487) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| STAN094i-081C2-DB35967 (80488) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MIN09i-33114.C-WB67412 (80489) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| STAN120i-192C2-WB67406 (80490) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MCW055i-U2054-WB67416 (80491) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| STAN130i-212C4-WB67415 (80492) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| STAN133i-215C1-DB44608 (80493) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| STAN134i-215C2-DB44611 (80494) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| STAN291i-827C1-DB44304 (80495) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| Positive (+) Control | Positive | |
| Negative (-) Control | Negative | |

Reported by: Cell Culture Specialist Reviewed by: Cell Culture Specialist

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A gel image is available upon request.