

Thaw and Culture Details

| Cell Line Name | UCSD212i-32-2 | | | | | | |
|-------------------------------------|---|--|--|--|--|--|--|
| WiCell Lot Number | WB58930 | | | | | | |
| Provider | University of California, San Diego – Dr. Kelly Frazer | | | | | | |
| Banked By | WiCell | | | | | | |
| Thaw and Culture Recommendations | WiCell recommends thawing 1 vial into 4 wells of a 6 well plate. | | | | | | |
| Culture Platform | Feeder Independent | | | | | | |
| | Medium: mTeSR™1 | | | | | | |
| | Matrix: Matrigel® | | | | | | |
| Protocol | WiCell Feeder Independent mTeSR [™] 1 Protocol | | | | | | |
| Passage Number | p19 These cells were cultured for 18 passages prior to freeze and post reprogramming. WiCell adds +1 to the passage number to best represent the overall passage number of the cells at thaw. | | | | | | |
| Date Vialed | 04-February-2017 | | | | | | |
| Vial Label | UCSD212i-32-2 p19 WB58930 | | | | | | |
| 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 |
| Karyotype by G-banding | short (p) arm of chromoso | abnormal karyotype. A me 11 and the long (q | An apparently balanced translocatio) arm of chromosome 18, is present lities were detected at the stated ba | t in twenty of |
| 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 | Steris | ST/07 | Negative | Pass |
| Mycoplasma | WiCell | | | Pass |

©2017 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 | | | |
|------------------|--|--|--|--|
| 18-February-2017 | 7/29/2018 XG Quality Assurance Signed by Gay, Jenna | | | |

©2017 WiCell Research Institute



Date Reported: Tuesday, July 17, 2018 Cell Line Sex: Female Cell Line: UCSD212i-32-2-WB58930 13832 Reason for Testing: lot release testing Passage#: 19 Date of Sample: 7/9/2018 Investigator: , WiCell Specimen: Human IPS Results: 46,XX,t(11;18)(p15.3;q11.2)[20] **Cell: 34** Slide: G02 Slide Type: Karyotype 12 Total Counted: 20 2+ Total Analyzed: 8 Total Karyogrammed: 4 Band Resolution: 450 - 600 38 80

Interpretation:

This is an abnormal karyotype. An apparently balanced translocation between the short (p) arm of chromosome 11 and the long (q) arm of chromosome 18, is present in twenty of twenty cells examined. 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: | 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: 13832-STR Sample Name on Tube: 13832-STR 91.6 ng/μL, (A260/280=1.88) Sample Type: Cells Cell Count: ~2 million cells **Requestor:** WiCell Research Institute Quality Department

Short Tandem Repeat

Analysis

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

Sample Date: N/A Receive Date: 07/16/18 Assay Date: 07/17/18 File Name: STR 180718 wmr repeat Report Date: 07/23/18

| 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 | |
| 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 | |

<u>Results:</u> Based on the 13832-STR cells submitted by WiCell QA dated and received on 07/16/18, this sample (Label on Tube: 13832-STR) defines the STR profile of the human stem cell line UCSD212i-32-2 comprising 27 allelic polymorphisms across the 15 STR loci analyzed.

<u>Interpretation:</u> No STR polymorphisms other than those corresponding to the human UCSD212i-32-2 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 13832-STR sample submitted corresponds to the UCSD212i-32-2 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 07/26/18 | X WMR | Digitally Signed on | 07/26/18 |
|------------------------------------|----------------|---------------------------|----------|
| , BA TRIP Laboratory Molecular | UWHC Molecular | , PhD, Director / Co-Dire | |

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



| | | SAMPLE #: | 18010216 |
|----------------------------|------------------------------|-----------------|-----------|
| WiCell | | DATE RECEIVED: | 04-Jan-18 |
| 504 S. Rosa Rd., Rm 101 | | TEST INITIATED: | 08-Jan-18 |
| Madison, WI 53719 | | TEST COMPLETED: | 22-Jan-18 |
| SAMPLE NAME / DESCRIPTION: | UCSD140i-37-1 WB59010 13213 | | |
| | UCSD163i-95-1 WB58969 13214 | | |
| | UCSD172i-101-1 WB58971 13215 | | |
| | UCSD179i-27-1 WB58928 13216 | | |
| | UCSD212i-32-2 WB58930 13217 | | |
| | UCSD213i-14-1 WB58781 13218 | | |
| | UCSD214i-14-2 WB58929 13219 | | |
| | UCSD219i-117-1 WB59167 13220 | | |
| | UCSD200i-4-1 WB66717 13221 | | |
| | WISC012i-SCA WB66718 13222 | | |
| UNIQUE IDENTIFIER: | NA | | |
| PRODUCT REGISTRATION: | Other: Human iPS cells | | |

| TEST RESULTS: | # Tested | # Positives (Growth) | - Control |
|---------------|----------|-------------------------|-------------|
| | 10 | 0 | 2 Negatives |

TEST S

| UMMARY: | # 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 Mac **REVIEWED BY**

DATE 23JAINIS

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 July 12, 2018 FORM SOP-QU-004.01 Version G Edition 02 Reported by: AP Reviewed by: JB BD Monolight 180

| | | Read | ing A | Α | Read | ing B | В | Ratio | | |
|---|-----------------------------|------|-------|-------|-------|-------|-------|--------|----------|-----------------------------|
| # | Sample Name | RLU1 | RLU2 | Ave | RLU1 | RLU2 | Ave | B/A | Result | Comments/Suggestions |
| 1 | UCSD212i-32-2-WB58930 13832 | 233 | 210 | 221.5 | 89 | 88 | 88.5 | 0.40 | Negative | |
| 2 | Positive (+) Control | 278 | 289 | 283.5 | 38511 | 38821 | 38666 | 136.39 | Positive | |
| 3 | Negative (-) Control | 636 | 654 | 645 | 65 | 71 | 68 | 0.11 | Negative | |

