

Product Information

| Product Name | WC005i-FX11-7 |
|-------------------------------|---|
| Alias | FX11-7 |
| Lot Number | WB20449 |
| Depositor | University of Wisconsin – Laboratory of Anita Bhattacharyya |
| Banked by | WiCell |
| Thaw Recommendation | Thaw 1 vial into 3 wells of a 6 well plate. |
| Culture Platform | Feeder Independent |
| | Medium: mTeSR1 |
| | Matrix: Matrigel |
| Protocol | WiCell Feeder Independent mTeSR1 Protocol |
| Passage Number | p6 |
| | These cells were cultured for 5 passages prior to freeze, 3 of them in mTeSR1/Matrigel. WiCell adds +1 to the passage number at freeze so that the number on the vial best represents the overall passage number of the cells at thaw. |
| Date Vialed | 22-June-2015 |
| Vial Label | WC005i-FX11-7 |
| | p6 WB20449 |
| 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 | ≥ 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 |
| Karyotype by G-banding | WiCell | SOP-CH-003 | Expected karyotype | Pass |

| Date of Lot Release | Quality Assurance Approval | | |
|---------------------|---|--|--|
| 21-September-2015 | 9/21/2015 X AMK AMK Quality Assurance Signed by | | |

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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.



Short Tandem Repeat Analysis

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

Sample Report: 11339-STR Sample Name on Tube: 11339-STR 220.3 ng/µL, (A260/280=1.97) Sample Type: Cells Cell Count: ~2 million cells **Requestor:** WiCell Research Institute Quality Department WiCell® info@wicell.org (888) 204-1782

Sample Date: N/A Receive Date: 08/04/15 Assay Date: 08/12/15 File Name: 150813 STR CLN Report Date: 08/17/15

| 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 |
| ТРОХ | 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 11339-STR cells submitted by WiCell QA dated and received on 08/04/15, this sample (Label on Tube: 11339-STR) defines the STR profile of the human stem cell line WC005i-FX11-7 comprising 22 allelic polymorphisms across the 15 STR loci analyzed.

<u>Interpretation</u>: No STR polymorphisms other than those corresponding to the human WC005i-FX11-7 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 11339-STR sample submitted corresponds to the WC005i-FX11-7 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 08/17/15 | X WMR Digitally Signed on 08/17/15 |
|------------------------------------|--|
| TRIP Laboratory, Molecular | , PhD, Director / Co-Director UWHC Molecular Diagnostics Laboratory / UWSMPH TRIP Laborator |

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 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.

| Sterility | Report |
|-----------|--------|
|-----------|--------|

Making life-saving products possible

| WiCell Research Institute, I | nc. | | BIOTEST SAMPLE # | 15081899 | |
|------------------------------|--|---|---------------------------|---|------|
| WiCell Quality Assurance | | | VALIDATION # | NG | |
| | | | TEST PURPOSE | NG | |
| PRODUCT | WA09(LOXGFP)-WB204 UWWC1-2DS3-WB2084 WC005i-FX11-7-WB204 UWWC1-DS1-WB21343 WC-3801-2-WB21395 1 WA07-WB21842 11373 LT2e-H9CAGGFP-WB0 MIN01i-32517.A-WB205 MIN03i-32642.B-WB205 MIN04i-33109.2B-WB205 | 46 11369 49 11370 3 11371 11372 207 11374 571 11375 013 11376 | | | |
| PRODUCT LOT | NA | | | | |
| STERILE LOT | NA | | BI LOT | NA | |
| STERILIZATION LOT | NA | | BI EXPIRATION DATE | NA | |
| STERILIZATION DATE | NA | | DATE RECEIVED | 2015-08-27 | |
| STERILIZATION METHOD | NA | | TEST INITIATED | 2015-08-28 | |
| SAMPLING BLDG / ROOM | NA | | TEST COMPLETED | 2015-09-11 | |
| REFERENCE | Processed according | to LAB-003: S | Sterility Test Procedure | | |
| | | 20-25 C and | | and 40 mL FTG. The samp and were monitored for a | oles |
| | | | POSITIVE CONTR | ROL NEGATIVE CONTR | |
| RESULTS Sterile | # POSITIVES 0 | # TESTED 10 | NA | 2 Negatives | OL |
| COMMENTS NA | | | DATE | 11Sep15 | |
| | | | | ··· */-··· | |
| 1 2 | to be indicative of the characteristics of | | | | |
| Biotest Labor | atories = 9303 West Broad | way Ave. = Broo | kiyn Park, MN 55445 🖷 USA | 4 = (703) 315-1200 | |

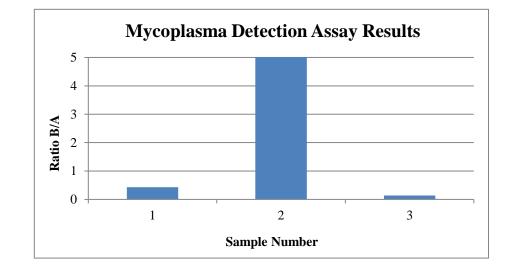
A subsidiary of STERIS Corporation



Mycoplasma Detection Assay Report Testing Performed by WiCell

Testing Performed by WiCell Lot Release Test 07-16-2015 FORM SOP-QU-004.01 Version E Edition 01 Reported by: SS Reviewed by: JB Berthold Flash n' Glo 539

| | | Read | ing A | Α | Read | ing B | В | Ratio | | |
|---|-----------------------------|------|-------|-------|-------|-------|-------|-------|----------|-----------------------------|
| # | Sample Name | RLU1 | RLU2 | Ave | RLU1 | RLU2 | Ave | B/A | Result | Comments/Suggestions |
| 1 | WC005i-FX11-7-WB20449 11339 | 140 | 135 | 137.5 | 57 | 61 | 59 | 0.43 | Negative | |
| 2 | Positive (+) Control | 224 | 220 | 222 | 18175 | 18184 | 18180 | 81.89 | Positive | |
| 3 | Negative (-) Control | 352 | 359 | 355.5 | 49 | 47 | 48 | 0.14 | Negative | |

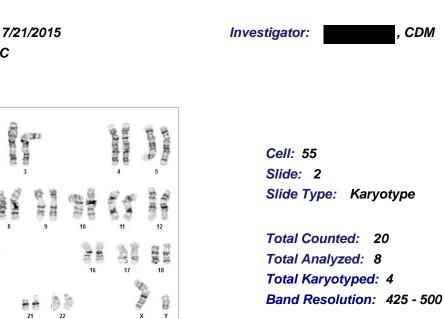




Cell Line Gender: Male

Reason for Testing: Lot release testing

Date Reported: Wednesday, July 29, 2015 Cell Line: WC005i-FX11-7-WB20449 11339 Passage#: 7 Date of Sample: 7/21/2015 Specimen: iPSC Results: 46,XY



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 ava | | (ASCP) , PhD, FACMG juest. | |
|--|----------|----------------------------------|---------------|
| 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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