



## Thaw and Culture Details

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                            |
|----------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cell Line Name                   | EMe-TPint5GCA5                                                                                                                                                                                                                                                                                                                                                                                             |
| WiCell Lot Number                | DB67600                                                                                                                                                                                                                                                                                                                                                                                                    |
| Provider                         | Brown University – Dr. Eric Morrow                                                                                                                                                                                                                                                                                                                                                                         |
| Banked By                        | Brown University – Dr. Eric Morrow                                                                                                                                                                                                                                                                                                                                                                         |
| Thaw and Culture Recommendations | WiCell recommends thawing 1 vial into 4 wells of a 6 well plate using mTeSR™Plus/Matrigel®.                                                                                                                                                                                                                                                                                                                |
| Protocol                         | WiCell Feeder Independent Pluripotent Stem Cell Protocol                                                                                                                                                                                                                                                                                                                                                   |
| Culture Platform Prior to Freeze | Feeder Independent                                                                                                                                                                                                                                                                                                                                                                                         |
|                                  | Medium: mTeSR™Plus                                                                                                                                                                                                                                                                                                                                                                                         |
|                                  | Matrix: Matrigel®                                                                                                                                                                                                                                                                                                                                                                                          |
| Passage Number                   | p38<br>These cells were cultured for 38 passages prior to freeze. Cells were modified at passage 26. Therefore, plated cells at thaw should be labeled passage 39.                                                                                                                                                                                                                                         |
| Date Vialied                     | 03-September-2020                                                                                                                                                                                                                                                                                                                                                                                          |
| Vial Label                       | WA09<br>TPP1 INT5<br>SA Het A5<br>P38<br>09/03/20                                                                                                                                                                                                                                                                                                                                                          |
| 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.<br>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-49                            | Expected karyotype                         | See Report |
| Post-Thaw Viable Cell Recovery | WiCell        | SOP-99                            | Recoverable attachment after passage       | Pass       |
| Identity by STR                | WiCell        | PowerPlex 16 HS System by Promega | Defines STR profile of deposited cell line | Pass       |
| Sterility                      | Steris        | ST/07                             | Negative                                   | Pass       |
| Mycoplasma                     | WiCell        | SOP-79                            | Negative                                   | Pass       |

| Approval Date    | Quality Assurance Approval                                                                           |
|------------------|------------------------------------------------------------------------------------------------------|
| 11-February-2021 | <div>2/11/2021</div> <div>X JKG</div> <div>JKG<br/>Quality Assurance<br/>Signed by: Gay, Jenna</div> |

**Date Reported:** Tuesday, January 19, 2021

**Cell Line:** EMe-TPint5GCA5-DB67600

**Submitted Passage #:** 40

**Date of Sample:** 1/14/2021

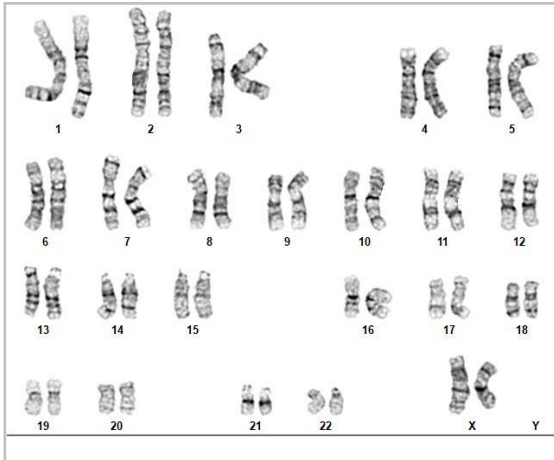
**Specimen:** Human Modified ESC

**Results:** 46,XX

**Cell Line Sex:** Female

**Reason for Testing:** LOT\_RELEASE

**Investigator:** WiCell Stem Cell Bank, WiCell



**Cell:** 12

**Slide:** G01

**Slide Type:** Karyotype

**Total Counted:** 20

**Total Analyzed:** 8

**Total Karyogrammed:** 4

**Band Resolution:** 400 - 425

## 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], Ph.D.

**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](http://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

Form SOP-89.01

Version 3.0

Requestor: WiCell Stem Cell Bank, WiCell

Samples Received: 11Jan21, 14Jan21, 19Jan21, 21Jan21, 25Jan21, 26Jan21

STR Amplification Date: 25Jan21, 28Jan21

| Sample Name           | JHU053i-DB36209 p6                                                                                                                                                               | JHU157i-DB36352 p16 | EMe-TPint5GCA5-DB67600 p40 | EMe-TPint5GCC1-DB67601 p40                                                                                                                                                       | MIN28i-35833.A-WB67616 p14 | MIN29i-35833.B-WB67612 p12 | WA09-WB67614 p26    |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------|----------------------------|---------------------|
| Label on tube         | 84425                                                                                                                                                                            | 84426               | 84447                      | 84448                                                                                                                                                                            | 84468                      | 84469                      | 84476               |
| FGA                   | Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact <a href="mailto:info@wicell.org">info@wicell.org</a> |                     | 26, 28                     | Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact <a href="mailto:info@wicell.org">info@wicell.org</a> |                            |                            |                     |
| TPOX                  |                                                                                                                                                                                  |                     | 10, 11                     |                                                                                                                                                                                  |                            |                            |                     |
| D8S1179               |                                                                                                                                                                                  |                     | 8, 14                      |                                                                                                                                                                                  |                            |                            |                     |
| vWA                   |                                                                                                                                                                                  |                     | 17, 17                     |                                                                                                                                                                                  |                            |                            |                     |
| Amelogenin            |                                                                                                                                                                                  |                     | X, X                       |                                                                                                                                                                                  |                            |                            |                     |
| Penta_D               |                                                                                                                                                                                  |                     | 9, 13                      |                                                                                                                                                                                  |                            |                            |                     |
| CSF1PO                |                                                                                                                                                                                  |                     | 11, 11                     |                                                                                                                                                                                  |                            |                            |                     |
| D16S539               |                                                                                                                                                                                  |                     | 12, 13                     |                                                                                                                                                                                  |                            |                            |                     |
| D7S820                |                                                                                                                                                                                  |                     | 9, 11                      |                                                                                                                                                                                  |                            |                            |                     |
| D13S317               |                                                                                                                                                                                  |                     | 9, 9                       |                                                                                                                                                                                  |                            |                            |                     |
| D5S818                |                                                                                                                                                                                  |                     | 11, 12                     |                                                                                                                                                                                  |                            |                            |                     |
| Penta_E               |                                                                                                                                                                                  |                     | 11, 14                     |                                                                                                                                                                                  |                            |                            |                     |
| D18S51                |                                                                                                                                                                                  |                     | 13, 13                     |                                                                                                                                                                                  |                            |                            |                     |
| D21S11                |                                                                                                                                                                                  |                     | 30, 30                     |                                                                                                                                                                                  |                            |                            |                     |
| TH01                  |                                                                                                                                                                                  |                     | 9.3, 9.3                   |                                                                                                                                                                                  |                            |                            |                     |
| D3S1358               |                                                                                                                                                                                  |                     | 13, 16                     |                                                                                                                                                                                  |                            |                            |                     |
| Allelic Polymorphisms | 27                                                                                                                                                                               | 26                  | 24                         | 24                                                                                                                                                                               | 25                         | 25                         | 24                  |
| Matches*              |                                                                                                                                                                                  |                     |                            |                                                                                                                                                                                  |                            |                            | See Matches Comment |
| Comments              |                                                                                                                                                                                  |                     |                            |                                                                                                                                                                                  |                            |                            |                     |

\*Note: The STR profile of the following sample is an exact match for the given sample/samples.



# Short Tandem Repeat

Form SOP-89.01

Version 3.0

Requestor: WiCell Stem Cell Bank, WiCell

Samples Received: 11Jan21, 14Jan21, 19Jan21, 21Jan21, 25Jan21, 26Jan21

STR Amplification Date: 25Jan21, 28Jan21

| Sample Name           | WA09-WB67615<br>p26                                                                                                                                                                                      | MIN30i-<br>33109.2G-<br>WB67613 p35 | MIN27i-35326.K-<br>WB67617 p10 | MIN26i-35326.I-<br>WB67609 p26                   | BWHi009-<br>WB66301 p180 | MIN25i-35613.SF-<br>1-WB67607 p17 | EMe-TPint5GC42-<br>DB67599 p39 |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--------------------------------|--------------------------------------------------|--------------------------|-----------------------------------|--------------------------------|
| Label on tube         | 84477                                                                                                                                                                                                    | 84496                               | 84531                          | 84534                                            | 84550                    | 84551                             | 84552                          |
| FGA                   | Identifying<br>information has<br>been redacted to<br>protect donor<br>confidentiality. If<br>more information<br>is required,<br>please contact<br><a href="mailto:info@wicell.org">info@wicell.org</a> |                                     |                                |                                                  |                          |                                   |                                |
| TPOX                  |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| D8S1179               |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| vWA                   |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| Amelogenin            |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| Penta_D               |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| CSF1PO                |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| D16S539               |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| D7S820                |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| D13S317               |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| D5S818                |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| Penta_E               |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| D18S51                |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| D21S11                |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| TH01                  |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| D3S1358               |                                                                                                                                                                                                          |                                     |                                |                                                  |                          |                                   |                                |
| Allelic Polymorphisms | 24                                                                                                                                                                                                       | 26                                  | 29                             | 34                                               | 28                       | 26                                | 24                             |
| Matches*              | See Matches<br>Comment                                                                                                                                                                                   |                                     |                                |                                                  |                          |                                   |                                |
| Comments              |                                                                                                                                                                                                          |                                     |                                | <sup>1</sup> See Triploid<br>Genotype<br>Comment |                          |                                   |                                |

\*Note: The STR profile of the following sample is an exact match for the given sample/samples.



## Short Tandem Repeat

Form SOP-89.01

Version 3.0

Requestor: WiCell Stem Cell Bank, WiCell

Samples Received: 11Jan21, 14Jan21, 19Jan21, 21Jan21, 25Jan21, 26Jan21

STR Amplification Date: 25Jan21, 28Jan21

|                       |                                                                                                                                                                                  |
|-----------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sample Name           | EMe-TPint5GC23-DB67598 p40                                                                                                                                                       |
| Label on tube         | 84553                                                                                                                                                                            |
| FGA                   | Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact <a href="mailto:info@wicell.org">info@wicell.org</a> |
| TPOX                  |                                                                                                                                                                                  |
| D8S1179               |                                                                                                                                                                                  |
| vWA                   |                                                                                                                                                                                  |
| Amelogenin            |                                                                                                                                                                                  |
| Penta_D               |                                                                                                                                                                                  |
| CSF1PO                |                                                                                                                                                                                  |
| D16S539               |                                                                                                                                                                                  |
| D7S820                |                                                                                                                                                                                  |
| D13S317               |                                                                                                                                                                                  |
| D5S818                |                                                                                                                                                                                  |
| Penta_E               |                                                                                                                                                                                  |
| D18S51                |                                                                                                                                                                                  |
| D21S11                |                                                                                                                                                                                  |
| TH01                  |                                                                                                                                                                                  |
| D3S1358               |                                                                                                                                                                                  |
| Allelic Polymorphisms | 24                                                                                                                                                                               |
| Matches*              |                                                                                                                                                                                  |
| Comments              |                                                                                                                                                                                  |

*\*Note: The STR profile of the following sample is an exact match for the given sample/samples.*



# Short Tandem Repeat

Form SOP-89.01

Version 3.0

Requestor: WiCell Stem Cell Bank, WiCell

Samples Received: 11Jan21, 14Jan21, 19Jan21, 21Jan21, 25Jan21, 26Jan21

STR Amplification Date: 25Jan21, 28Jan21

**Results:** The genotypic profiles comprise a range of 24-34 allelic polymorphisms across the 15 STR loci analyzed.

**Interpretation:** 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. These results suggests that the cells submitted correspond to the cell lines as named and were 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 is ~2-5%.

**<sup>1</sup>Triploid Genotype:** A triploid genotype was detected at the vWA, Penta\_D, D16S539, Penta\_E, and D18S51 loci. This observation could be the result of chromosomal gain, loss, and/or amplification in this cell line.

**Matches:** Samples 84476 and 84477 are exact matches to each other and to 14630, 74319, 74844, 74924, 74925, 83593, 84032, 84034, and 84095.

2/8/2021

2/8/2021

2/8/2021

X

Tech #1  
Characterization  
Signed by: [redacted]

X

Tech #2  
Characterization  
Signed by: [redacted]

X

QA Review  
Quality Assurance  
Signed by: [redacted]

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*Raw data is available upon request.*

# Native Product Sterility Report



WiCell  
504 S Rosa Road, Rm 101  
Madison, WI 53719

SAMPLE #: 20121700  
DATE RECEIVED: 29-Dec-20  
TEST INITIATED: 04-Jan-21  
TEST COMPLETED: 18-Jan-21

SAMPLE NAME / DESCRIPTION:

STAN274i-729C2-WB67604  
STAN366i-282C2-WB67606  
STAN245i-601C4-WB67605  
GCT27C4-DB67566  
GCT27DC1-DB67567  
MIN24i-35613.B-WB67610  
MIN25i-35613.SF-1-WB67607  
MIN26i-35326.I-WB67609  
JHU114i-DB36253  
SCR5402i-WB67608  
EMe-TPint5GC23-DB67598  
EMe-TPint5GC42-DB67599  
EMe-TPint5GCA5-DB67600  
EMe-TPint5GCC1-DB67601  
EMe-TPR208X12-DB67602  
EMe-TPR208X25-DB67603  
PENNO26i-124-1-DB34876  
PENNO27i-40-2-DB36452  
JHU090i-DB41248  
JHU127i-DB36261

UNIQUE IDENTIFIER: N/A

## TEST RESULTS:

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

## TEST SUMMARY:

| # Samples | Media Type | Volume (mL) | Incubation<br>Temperature<br>(° C) | Incubation<br>Duration<br>(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

# Native Product Sterility Report



COMMENTS: Sample #20121700

REVIEWED BY

A handwritten signature in blue ink, appearing to read "J. L. H.", written over a horizontal line.

DATE 20 JAN 2021

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

13Jan21

FORM SOP-83.01

Version 2.0

| Sample Name                     | Result   | Interpretation                                                    |
|---------------------------------|----------|-------------------------------------------------------------------|
| MIN27i-35326.K-DB67585 (84386)  | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MIN28i-35833.A-DB67586 (84387)  | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MIN29i-35833.B-DB67587 (84388)  | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MIN30i-33109.2G-DB67588 (84389) | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| JHU042i-DB41048 (84391)         | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| JHU053i-DB36209 (84392)         | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| JHU133i-DB41335 (84393)         | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| JHU157i-DB36352 (84394)         | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| JHU233i-DB37038 (84395)         | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| STAN245i-601C4-WB67605 (84403)  | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| STAN366i-282C2-WB67606 (84404)  | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| STAN274i-729C2-WB67604 (84411)  | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| MIN24i-35613.B-WB67610 (84414)  | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| EMe-TPint5GCC1-DB67601 (84416)  | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| EMe-TPint5GCA5-DB67600 (84417)  | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| EMe-TPR208X12-DB67602 (84418)   | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| EMe-TPR208X25-DB67603 (84419)   | Negative | Band was not seen at 270bp, indicating the absence of mycoplasma. |
| Positive (+) Control            | Positive |                                                                   |
| Negative (-) Control            | Negative |                                                                   |

Reported by: [REDACTED], Cell Culture Specialist

Reviewed by: [REDACTED], Senior Cell Culture Specialist

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A gel image is available upon request.