



Certificate of Analysis

Thaw and Culture Details

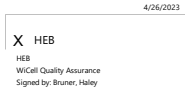
Cell Line Name	WA09	
WiCell Lot Number	WB68074	
Parent Material	WA09-WB0090	
Provider/Client	University of Wisconsin – Laboratory of Dr. James Thomson	
Banked By	WiCell	
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 4 wells of a 6 well plate using mTeSR™ 1 and Cultrex®.	
Protocol	WiCell Feeder Independent Pluripotent Stem Cell Protocol	
Culture Platform Prior to Freeze	Medium: mTeSR™ 1	Matrix: Matrigel®
Passage Number	p27 Cells were cultured for 26 passages prior to freeze and post reprogramming. Plated cells at thaw should be labeled passage 27.	
Date Vialied	20-December-2022	
Vial Label	WA09 p27 WB68074	
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.	



Certificate of Analysis

Results

Test Description	Test Provider	Test Method	Test Specification	Result
Karyotype	WiCell	G-T-L Banding performed on 20 metaphase cells	Expected karyotype	See Report
	Results: 46,XX Interpretation: This is a normal karyotype; no clonal abnormalities were detected at the stated band level of resolution.			
Post-Thaw Viable Cell Recovery	WiCell	Thaw using specified Thaw & Culture Recommendations	≥ 15 Undifferentiated Colonies prior to passage, ≤ 30% Differentiation prior to passage, and recoverable attachment after passage	Pass
Identity by STR	WiCell	PowerPlex 16 HS System by Promega™	Consistent with STR profile of deposited cell line	See Report
Mycoplasma	WiCell	PCR	Amplification of mycoplasma specific DNA detected with negative result	Pass
Sterility	Steris	Native Product Direct Transfer using FTM and TSB (ST/07)	Negative for growth following 14 days of culture	Pass

Approval Date	WiCell Quality Assurance Approval
26-April-2023	 4/26/2023 X HEB HEB WiCell Quality Assurance Signed by Bruner, Haley

Date Reported: Friday, March 10, 2023

Cell Line: WA09-WB68074

Submitted Passage #: 27

Date of Sample: 3/6/2023

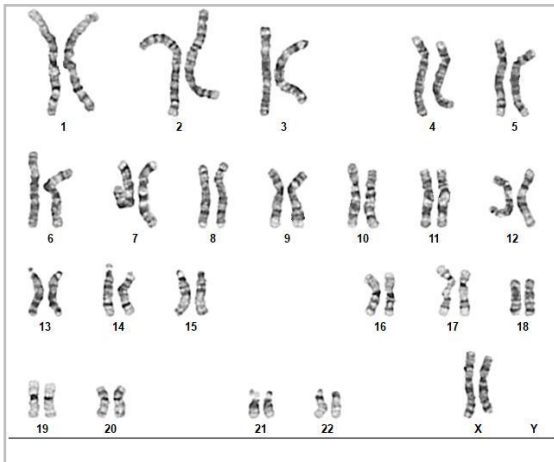
Specimen: Human ESC

Results: 46,XX

Cell Line Sex: Female

Reason for Testing: LOT_RELEASE

Investigator: WiCell Stem Cell Bank, WiCell



Cell: 3

Slide: G03

Slide Type: Karyotype

Total Counted: 20

Total Analyzed: 8

Total Karyogrammed: 5

Band Resolution: 425 - 450

Interpretation:

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

Completed by: Timm Gonzales, CG(ASCP)

Reviewed and Interpreted by: Vanessa Horner, PhD, FACMG

For internal use only

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.



Short Tandem Repeat

Requestor: WiCell Stem Cell Bank, WiCell

Samples Received: 06Mar23, 07Mar23

STR Amplification Date: 15Mar23

Form SOP-89.01

Version 9.0

Sample Name		WA09- WB68075 p27	WA09- WB68074 p27
WiCell CTR No. ¹		96184	96183
FGA		26, 28	26, 28
TPOX	Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact info@wicell.org	10, 11	10, 11
D8S1179		8, 14	8, 14
vWA		17, 17	17, 17
Amelogenin		X, X	X, X
Penta_D		9, 13	9, 13
CSF1PO		11, 11	11, 11
D16S539		12, 13	12, 13
D7S820		9, 11	9, 11
D13S317		9, 9	9, 9
D5S818		11, 12	11, 12
Penta_E		11, 14	11, 14
D18S51		13, 13	13, 13
D21S11		30, 30	30, 30
TH01		9.3, 9.3	9.3, 9.3
D3S1358		13, 16	13, 16
Allelic Polymorphisms		24	24
Matches*		See matches comment	See matches comment
Comments			

**Note: The STR profile of the following sample is a 100% match for the given sample/samples unless otherwise specified.*

¹ CTR No.: Characterization Test Request Number; also known as a laboratory accessioning number.



Short Tandem Repeat

Form SOP-89.01
Version 9.0

Requestor: WiCell Stem Cell Bank, WiCell
Samples Received: 06Mar23, 07Mar23
STR Amplification Date: 15Mar23

Assay Description: STR analysis is performed using the PowerPlex 16 HS System by Promega™. Results are reported as 13 CODIS STR markers, Amelogenin for gender determination and two low-stutter, highly discriminating pentanucleotide STR markers.

Results: The genotypic profiles comprise a range of 24 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 ~2-4%.

Matches: Samples 96183 and 96184 are exact 100% matches to each other and to 90918, 90917, 95823, 95822, 93654, 93595, 92908, 92553, 92481, 89607 and additional profiles. Additional matches can be provided upon request.

3/23/2023	3/23/2023	3/23/2023
<p>X Kaylie Petersen</p> <hr/> <p>Tech #1 Characterization Signed by: Petersen, Kaylie</p>	<p>X Amber Kuhn</p> <hr/> <p>Tech #2 Characterization Signed by: Kuhn, Amber</p>	<p>X Ryen Smith</p> <hr/> <p>QA Review Quality Assurance Signed by: Smith, Ryen</p>

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Mycoplasma Assay Report

PCR-based assay performed by WiCell
WiCell Stem Cell Bank, WiCell
08Mar23

Form SOP-83.01
Version 5.0

Sample Name	Result	Interpretation
WA09-WB68075 p27 (96184)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
WA09-WB68074 p27 (96183)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
PACS2iPS01-C5-DB68076 p7 (96179)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
Positive (+) Control	Positive	
Negative (-) Control	Negative	

Assay Description
Sample is tested for presence of mycoplasma using EZ-PCR™ Mycoplasma Detection Kit (Sartorius).

3/10/2023	3/10/2023	3/10/2023
X Michael Mussar	X Amber Kuhn	X Ryen Smith
Tech #1 Characterization Signed by: Mussar, Michael	Tech #2 Characterization Signed by: Kuhn, Amber	QA Review Quality Assurance Signed by: Smith, Ryen

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A gel image is available upon request.

Native Product Sterility Report



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

SAMPLE #: 23010530
DATE RECEIVED: 12-Jan-23
TEST INITIATED: 13-Jan-23
TEST COMPLETED: 27-Jan-23

SAMPLE NAME / DESCRIPTION: WA09-WB68071
WA09-WB68073
WA09-WB68074
WA09-WB68075
WC-24-02-DS-B-WB68072
PENNO24i-370-3-DB34749
PENNO28i-637-2-DB36402
PENNO30i-384-4-DB36141
PENNO75i-309-1-DB35143
PENNO80i-603-1-DB36436

UNIQUE IDENTIFIER: N/A

TEST RESULTS:

# Tested	# Positives (Growth)	- Control
10	0	2 Negatives

TEST SUMMARY:

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

REFERENCE: Processed according to LAB-003: Sterility Test Procedure

PD #: 000053

TEST METHODOLOGY: USP - Direct Transfer

COMMENTS: NA

AUTHORIZED BY _____

DATE 30 JAN 2023

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.