



Certificate of Analysis

Thaw and Culture Details

Cell Line Name	WA01	
WiCell Lot Number	WB68037	
Parent Material	WA01-WB0111	
Provider/Client	University of Wisconsin – Laboratory of Dr. James Thomson	
Banked By	WiCell	
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 3 wells of a 6 well plate using mTeSR™ 1 and Matrigel®.	
Protocol	WiCell Feeder Independent Pluripotent Stem Cell Protocol	
Culture Platform Prior to Freeze	Medium: mTeSR™ 1	Matrix: Matrigel®
Passage Number	p22 Cells were cultured for 21 passages prior to freeze. Plated cells at thaw should be labeled passage 22.	
Date Vialled	07-November-2022	
Vial Label	WA01 p22 WB68037	
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,XY 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
11-January-2024	<div>1/11/2024</div> <div>X HH</div> <div>HEB</div> <div>WiCell Quality Assurance</div> <div>Signed by: Heffs, Hunter</div>

Date Reported: Friday, December 2, 2022

Cell Line: WA01-WB68037

Submitted Passage #: 22

Date of Sample: 11/14/2022

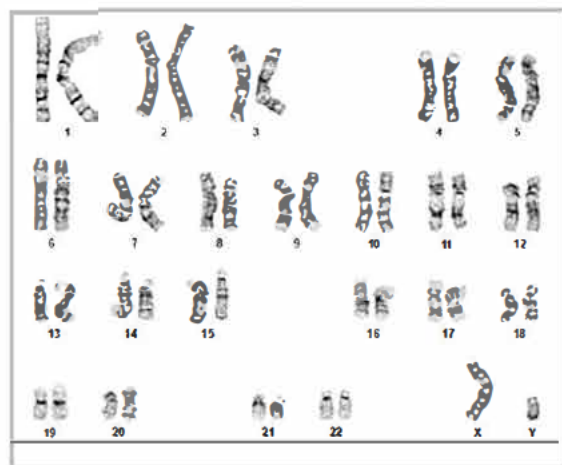
Specimen: Human ESC

Results: 46,XY

Cell Line Sex: Male

Reason for Testing: LOT_RELEASE

Investigator: WiCell Stem Cell Bank, WiCell



Cell: 28

Slide: G02

Slide Type: Karyotype

Total Counted: 20

Total Analyzed: 9

Total Karyogrammed: 5

Band Resolution: 450 - 500

Interpretation:

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

Completed by: Jennifer Pecos, 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: 08Nov22, 10Nov22, 14Nov22
STR Amplification Date: 16Nov22

Form SOP-89.01
Version 9.0

Sample Name	iPS DF19-9-11T.H-WB68035 p27	STAN295i-836C1-DB44218 p17	STAN296i-836C2-DB44221 p18	WA01-WB68036 p22	WA01-WB68037 p22
WiCell CTR No. ¹	94663	94728	94729	94743	94744
FGA	Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact info@wicell.org				20, 24
TPOX					8, 11
D8S1179					12, 13
vWA					15, 17
Amelogenin					X, Y
Penta_D					10, 13
CSF1PO					12, 13
D16S539					9, 13
D7S820					8, 12
D13S317					8, 11
D5S818					9, 11
Penta_E					10, 12
D18S51					17, 18
D21S11					28, 32.2
TH01					9.3, 9.3
D3S1358					15, 15
Allelic Polymorphisms	27	27	29	28	28
Matches*	See Matches Comment	94217	94265	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

Requestor: WiCell Stem Cell Bank, WiCell
Samples Received: 08Nov22, 10Nov22, 14Nov22
STR Amplification Date: 16Nov22

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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 27-29 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: Sample 94663 is 100% match to exact match to 83014, 82914, 82890, 82887, 74623, 74443, 74323, 72827 and additional profiles. Additional matches can be provided upon request.

Samples 94743 and 94744 are 100% match to each other and to exact match to 93806, 86570, 86550, 82881, 82204, 82128, 82047, 80875, 80711, 77345 and additional profiles. Additional matches can be provided upon request.

11/21/2022	11/22/2022	11/21/2022
X Justin Hobson	X Anna Lisa Larson	X Hunter Hefti
Tech #1 Characterization Signed by: Hobson, Justin	Tech #2 Characterization Signed by: Larson, Anna Lisa	QA Review Quality Assurance Signed by: Hefti, Hunter

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Mycoplasma Assay Report

PCR-based assay performed by WiCell
WiCell Stem Cell Bank, WiCell
15Nov22

Form SOP-83.01

Version 5.0

Sample Name	Result	Interpretation
WA01-WB68037 p22 (94744)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
WA01-WB68036 p22 (94743)	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).

11/16/2022	11/16/2022	11/17/2022
X Kaylie Petersen	X Julia Graham	X Hunter Hefti
Tech #1 Characterization Signed by: Petersen, Kaylie	Tech #2 Characterization Signed by: Graham, Julia	QA Review Quality Assurance Signed by: Hefti, Hunter

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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 #: 22110881
DATE RECEIVED: 17-Nov-22
TEST INITIATED: 20-Dec-22
TEST COMPLETED: 03-Jan-23

SAMPLE NAME / DESCRIPTION: iPS DF19-9-11T.H-WB68035
WA01-WB68036
WA01-WB68037
STAN260i-688C3-DB44568
PENN145i-M16-2-DB36503
PENN146i-M11-5-DB36583
PENN147i-M9-7-DB36414
PENNO39i-63-1-DB36536
PENNO37i-90-3-DB36321
PENNO31i-56-1-DB36528
UNIQUE IDENTIFIER: N/A

TEST RESULTS:

# Tested	# Positives (Growth)	- Control
10	1	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: Sample labeled as WA01-WB68036 is positive

AUTHORIZED BY

DATE 05 Jan 2023

Native Product Sterility Report



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.