Certificate of Analysis

Thaw and Culture Details

Cell Line Name	**WIZ02e-H9CAGhM4Di**	
WiCell Lot Number	**WB67644**	
Parent Material	WIZ02e-H9CAGhM4Di-WB67286	
Provider/Client	University of Wisconsin – Dr. Su-Chun Zhang	
Banked By	WiCell	
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 4 wells of a 6 well plate using mTeSR™Plus and Matrigel®.	
Protocol	WiCell Feeder Independent Pluripotent Stem Cell Protocol	
Culture Platform Prior to Freeze	Medium: mTeSR™Plus	Matrix: Matrigel®
Passage Number	p42 These cells were cultured for 41 passages prior to freeze and post colony selection. WiCell adds +1 to the passage number at freeze to best represent the overall passage number of the cells at thaw. Plated cells at thaw should be labeled passage 42.	
Date Vialed	25-April-2021	
Vial Label	WIZ02e-H9CAGhM4Di p42 WB67644	
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

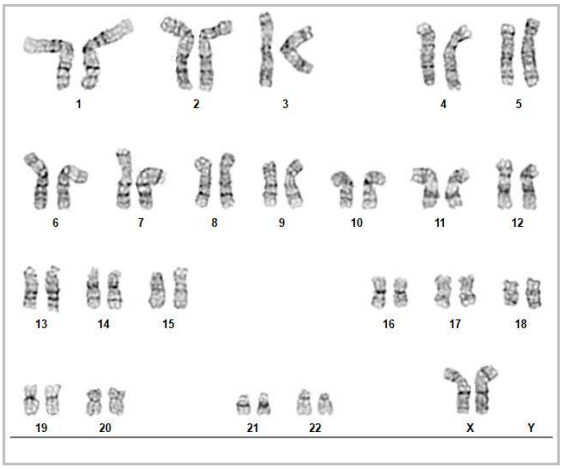
Test Description	Test Provider	Test Method	Test Specification	Result
Karyotype	WiCell	G-T-L Banding performed on 20 metaphase cells	Expected karyotype	See Report
	Results: 46,XX ***Interpretation:*** This is a normal karyotype; no clonal abnormalities were detected at the stated band level of resolution.			
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
Expression of Reporter Proteins	WiCell	Fluorescence microscopy	Expression of reporter proteins in undifferentiated state	Pass

Approval Date	WiCell Quality Assurance Approval
03-JUNE-2021	6/20/2021 X JKG JKG WiCell Quality Assurance Signed by: Gay, Jenna

Chromosome Analysis Report: 086113

Date Reported: Friday, May 14, 2021
Cell Line: WIZ02e-H9CAGhM4Di-WB67644
Submitted Passage #: 42
Date of Sample: 5/3/2021
Specimen: Human Modified ESC
Results: 46,XX

Cell Line Sex: Female
Reason for Testing: LOT_RELEASE
Investigator: WiCell Stem Cell Bank, WiCell



Cell: 67
Slide: G01
Slide Type: Karyotype

Total Counted: 20
Total Analyzed: 8
Total Karyogrammed: 4
Band Resolution: 375 - 475

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".

Short Tandem Repeat

Requestor: WiCell Stem Cell Bank, WiCell
Samples Received: 03May21
STR Amplification Date: 10May21

Form SOP-89.01
Version 4.0

Sample Name	WIZ02e-H9CAGhM4Di-WB67644 p42	CHB-4-WB67645 p26
Label on tube	86113	86114
FGA	26, 28	20, 22
TPOX	10, 11	11, 12
D8S1179	8, 14	13, 14
vWA	17, 17	16, 20
Amelogenin	X, X	X, Y
Penta_D	9, 13	13, 13
CSF1PO	11, 11	11, 12
D16S539	12, 13	9, 12
D7S820	9, 11	12, 12
D13S317	9, 9	8, 8
D5S818	11, 12	11, 12
Penta_E	11, 14	10, 18
D18S51	13, 13	15, 19
D21S11	30, 30	30, 31
TH01	9.3, 9.3	7, 7
D3S1358	13, 16	16, 17
Allelic Polymorphisms	24	26
Matches*	78407	
Comments		

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

Short Tandem Repeat

Requestor: WiCell Stem Cell Bank, WiCell
Samples Received: 03May21
STR Amplification Date: 10May21

Form SOP-89.01
Version 4.0

Results: The genotypic profiles comprise a range of 24-26 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%.

5/14/2021

X [redacted]

Tech #1
Characterization
Signed by: [redacted]

5/14/2021

X [redacted]

Tech #2
Characterization
Signed by: [redacted]

5/17/2021

X [redacted]

QA Review
Quality Assurance
Signed by: [redacted]

Native Product Sterility Report

STERIS

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

SAMPLE #: 21050267
DATE RECEIVED: 06-May-21
TEST INITIATED: 12-May-21
TEST COMPLETED: 26-May-21

SAMPLE NAME / DESCRIPTION:
CHB-4-WB67645
WIZ02e-H9CAGhM4Di-WB67644
PENN111i-222-5-DB36511
PENN121i-69-1-DB34956
PENN023i-82-1-DB35098
PENN114i-127-2-DB34717
PENN132i-131-5-DB35044
SCRP5003i-DB42961
SCRP5508i-DB42969
SCRP5603i-DB42976

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

REVIEWED BY Amie Burckhard DATE 26may2021

Mycoplasma Assay Report

PCR-based assay performed by WiCell

WiCell

05May21

FORM SOP-83.01
Version 3.0

Sample Name	Result	Interpretation
[redacted]	[redacted]	[redacted].
WIZ02e-H9CAGhM4Di-WB67644 p42 (86113)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
CHB-4-WB67645 p26 (86114)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
H9 hNanog-pGZ-WB33582 p47 (86115)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
Positive (+) Control	Positive	
Negative (-) Control	Negative	

5/5/2021

X [redacted]

Tech #1
Characterization
Signed by: [redacted]

5/6/2021

X [redacted]

Tech #2
Characterization
Signed by: [redacted]

5/6/2021

X [redacted]

QA Review
Quality Assurance
Signed by: [redacted]

A gel image is available upon request.

Verification of mCherry Reporter Protein

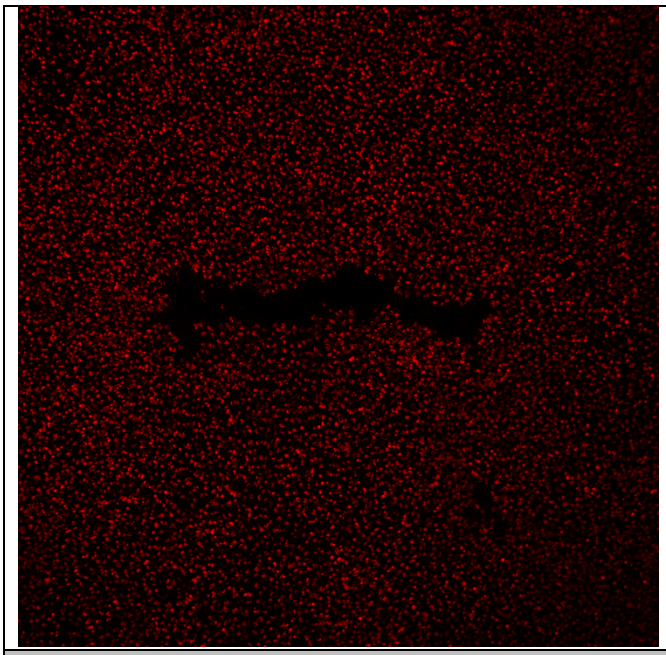
Cell Line-Lot Number	WIZ02e-H9CAGhM4Di-WB67644
Sample ID	15407
Passage Number	43
Assay Date	07MAY21
Reported By/Date	JB 12MAY21
Reviewed By/Date	JB 12MAY21
QA Review & Processed By/Date	HEB 14May21
Notes	☒ N/A

Data Acquisition

- Culture imaged by the University of Wisconsin Optical Imaging Core using a Leica DMi8 Fluorescent Microscope (Filter sets for 4 color widefield fluorescence acquisition using a Hg Arc Lamp).

Results

- Does this lot express the mCherry reporter protein?
  - Yes ☒
  - No ☐



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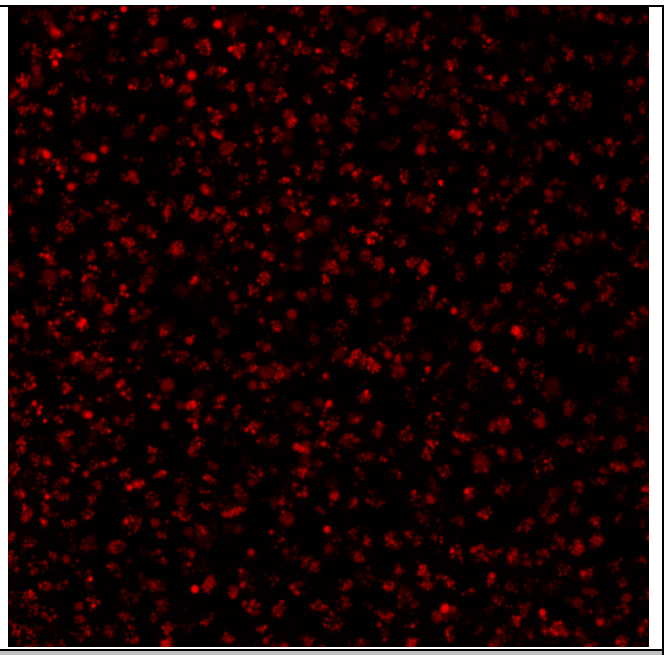

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