



Certificate of Analysis

Thaw and Culture Details

Cell Line Name	HVRDi002-A	
WiCell Lot Number	WB67926	
Parent Material	HVRDi002-A-WB66709	
Provider/Client	Brigham & Women's Hospital – Dr. Tracy Young-Pearse	
Banked By	WiCell	
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 2 wells of a 6 well plate TeSR™-E8™ and Matrigel®.	
Protocol	WiCell Feeder Independent Pluripotent Stem Cell Protocol	
Culture Platform Prior to Freeze	Medium: TeSR™-E8™	Matrix: Matrigel®
Passage Number	p38 Cells were cultured for 37 passages prior to freeze and post colony selection. Plated cells at thaw should be labeled passage 38.	
Date Vialied	06-JULY-2022	
Vial Label	HVRDi002-A p38 WB67926	
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

Testing Reported by Provider

The Provider stated that some or all of the additional analyses listed below may have been performed for this cell line. For more information, publication and dbGaP links, where available, are provided on the cell line specific web page on the WiCell website.

- Expression of MAP2, Tau and TuJ1, markers of upper (Cux1) and lower (Tbr1) layer cortical neurons and synaptic markers synaptophysin (SYP), PSD95 and VGLUT1 by immunostaining
- Embryoid body formation and in vitro differentiation to ectodermal, mesodermal, and endodermal lineage

Approval Date	WiCell Quality Assurance Approval
25-August-2022	<div style="text-align: right; font-size: small;">8/25/2022</div>  <div style="font-size: x-small;"> X_JKG JKG WiCell Quality Assurance Signed by: Gay, Jenna </div>

Date Reported: Wednesday, July 27, 2022

Cell Line: HVRDi002-A-WB67926

Submitted Passage #: 38

Date of Sample: 7/20/2022

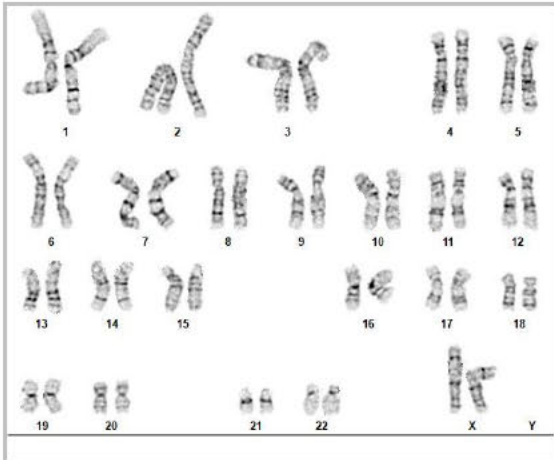
Specimen: Human iPSC

Results: 46,XX

Cell Line Sex: Female

Reason for Testing: LOT_RELEASE

Investigator: WiCell Stem Cell Bank, WiCell



Cell: 52

Slide: G04

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: 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

Form SOP-89.01

Version 9.0

Requestor: WiCell Stem Cell Bank, WiCell
 Samples Received: 18Jul22, 20Jul22, 22Jul22
 STR Amplification Date: 27Jul22

Sample Name	PENN070i-408-1-WB67927 p19	PENN130i-78-3-WB67934 p21	JHU225i-WB67932 p9	JHU177i-WB67931 p13	HVRDi002-A-WB67926 p38	PENN004i-277-1-WB67929 p19	PENN165i-M2-21-WB67928 p27
WiCell CTR No. ¹	93034	93033	93032	93031	92960	92918	92917
FGA	Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact info@wicell.org						
TPOX							
D8S1179							
vWA							
Amelogenin							
Penta_D							
CSF1PO							
D16S539							
D7S820							
D13S317							
D5S818							
Penta_E							
D18S51							
D21S11							
TH01							
D3S1358							
Allelic Polymorphisms	27	27	29	26	29	28	26
Matches*	71553	90463	91795, 77637	74749	70127, 66269	83151	90138, 90139
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: 18Jul22, 20Jul22, 22Jul22
STR Amplification Date: 27Jul22

Form SOP-89.01
Version 9.0

Sample Name	STAN248i-617C1-WB67923 p17
WiCell CTR No. ¹	92916
FGA	Identifying information has been redacted to protect donor confidentiality. If more information is required, please contact info@wicell.org
TPOX	
D8S1179	
vWA	
Amelogenin	
Penta_D	
CSF1PO	
D16S539	
D7S820	
D13S317	
D5S818	
Penta_E	
D18S51	
D21S11	
TH01	
D3S1358	
Allelic Polymorphisms	27
Matches*	86519, 86541
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: 18Jul22, 20Jul22, 22Jul22
STR Amplification Date: 27Jul22

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 26-29 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%.

8/2/2022	8/2/2022	8/2/2022
X Molly Miles	X Amber Kuhn	X Hunter Hefti
Tech #1 Characterization Signed by: Miles, Molly	Tech #2 Characterization Signed by: Kuhn, Amber	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
26Jul22

Form SOP-83.01
Version 5.0

Sample Name	Result	Interpretation
PENN070i-408-1-WB67927 p19 (93034)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
PENN130i-78-3-WB67934 p21 (93033)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
JHU225i-WB67932 p9 (93032)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
JHU177i-WB67931 p13 (93031)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
HVRDi002-A-WB67926 p38 (92960)	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).

7/26/2022	7/27/2022	8/3/2022
 Kayla Janke	 Justin Hobson	 Hunter Hefti
Tech #1 Characterization Signed by: Janke, Kayla	Tech #2 Characterization Signed by: Hobson, Justin	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 #: 22070956
DATE RECEIVED: 21-Jul-22
TEST INITIATED: 25-Jul-22
TEST COMPLETED: 08-Aug-22

SAMPLE NAME / DESCRIPTION: JHU177i-WB67931
JHU225i-WB67932
JHU017i-WB67933
HVRDi002-A-WB67926
PENN004i-277-1-WB67929
PENN070i-408-1-WB67927
PENN130i-78-3-WB67934
PENN165i-M2-21-WB67928
CREM010i-SS9-1-WB67935

UNIQUE IDENTIFIER: N/A

TEST RESULTS:

# Tested	# Positives (Growth)	- Control
9	0	2 Negatives

TEST SUMMARY:

# Samples	Media Type	Volume (mL)	Incubation Temperature (° C)	Incubation Duration (Days)
9	TSB	40	20-25	14
9	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

DATE 10 AUG 2022

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.