



# Certificate of Analysis

## Thaw and Culture Details

Cell Line Name	<b>WIBR3-S2</b>	
WiCell Lot Number	<b>WB68916</b>	
Provider/Client	Whitehead Institute	
Banked By	WiCell	
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 1 well of a 6 well plate using iSCORE 01 medium and MEF. WiCell recommends thawing using ROCK Inhibitor for best results.	
Protocol	WiCell Feeder Based (MEF) Protocol 01 for Culture of MJFF iSCORE Lines	
Culture Platform Prior to Freeze	Medium: iSCORE 01 medium	Matrix: MEF
Passage Number	p29 Cells were cultured for 28 passages prior to freeze post colony selection. Plated cells at thaw should be labeled passage 29.	
Date Viald	28-May-2025	
Vial Label	WIBR3-S2 p29 WB68916  Store at -135C or colder Made in United States Research Use Only 	
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
	<p><b>Results:</b> 46,XX  <b>Interpretation:</b> This is a normal karyotype; no clonal abnormalities were detected at the stated band level of resolution.</p>			
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™	Defines 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
15-January-2026	<p style="text-align: right;">1/15/2026</p> <p>X HEB _____  <small>HEB            WiCell Quality Assurance            Signed by: Bruner, Haley</small></p>

The material provided under this certificate has been subjected to the tests specified and the results and data described herein are accurate based on WiCell's reasonable knowledge and belief. Appropriate Biosafety Level practices and universal precautions should always be used with this material. For clarity, the foregoing is governed solely by WiCell's Terms and Conditions of Service, which can be found at <http://www.wicell.org/privacyandterms>.

**Date Reported:** August 24, 2025

**Cell Line:** WIBR3-S2-WB68916

**Submitted Passage #:** 32

**Date of Sample:** 8/15/2025

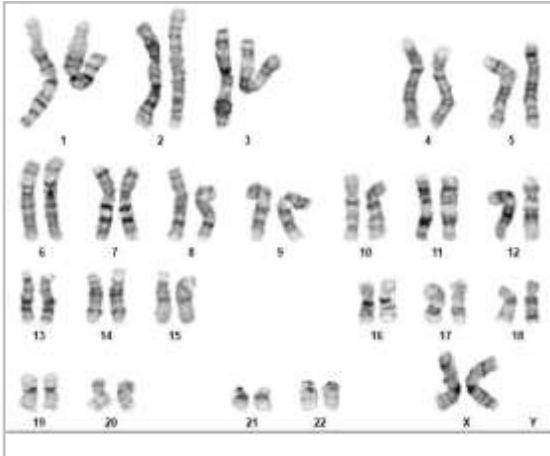
**Specimen:** Human ESC

**Results:** 46,XX

**Cell Line Sex:** Female

**Reason for Testing:** LOT\_RELEASE

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



**Cell:** 33

**Slide:** G01

**Slide Type:** Karyotype

**Total Counted:** 20

**Total Analyzed:** 8

**Total Karyogrammed:** 4

**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:** Justin Schleede, 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](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 15.0

Requestor: WiCell Stem Cell Bank, WiCell

Sample Receipt Date: 25Aug25, 22Aug25, 21Aug25, 19Aug25, 15Aug25, 26Aug25, 29Aug25

STR Amplification Date: 09Sep25

Sample Name	CVCL_C7VX- WB68985 p42	CVCL_C7VL- WB68996 p35	CVCL_D3YC- WB69004 p35	BCHi017-A-9- DB68710 p12	BCHi017-A-7- DB68709 p12	BCHi017-A-11- DB68711 p14
WiCell CTR No. <sup>1</sup>	108864	108863	108861	108860	108859	108854
FGA	<p>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></p>					
TPOX						
D8S1179						
vWA						
Amelogenin						
Penta_D						
CSF1PO						
D16S539						
D7S820						
D13S317						
D5S818						
Penta_E						
D18S51						
D21S11						
TH01						
D3S1358						
Allelic Polymorphisms	28	28	28	27	27	27
Matches <sup>2</sup>	See Results	See Results	See Results	108859, 108854	108860, 108854	108859, 108860
Comments						

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

<sup>2</sup> The STR profile of the sample(s) listed are a 100% match for the given sample unless otherwise specified.



# Short Tandem Repeat

Form SOP-89.01  
Version 15.0

Requestor: WiCell Stem Cell Bank, WiCell

Sample Receipt Date: 25Aug25, 22Aug25, 21Aug25, 19Aug25, 15Aug25, 26Aug25, 29Aug25

STR Amplification Date: 09Sep25

Sample Name	BCHi016-A-3-DB68708 p20	BCHi016-A-1-DB68707 p18	WIBR3-S2-WB68916 p32	EIFIII002-A-DB68808 p8	CVCL_C7VP-WB68993 p32	WIBR3-WB69008 p33
WiCell CTR No. <sup>1</sup>	108818	108817	108780	108779	108776	108953
FGA	<p>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></p>					
TPOX						
D8S1179						
vWA						
Amelogenin						
Penta_D						
CSF1PO						
D16S539						
D7S820						
D13S317						
D5S818						
Penta_E						
D18S51						
D21S11						
TH01						
D3S1358						
Allelic Polymorphisms	26	26	28	27	28	28
Matches <sup>2</sup>	108817	108818	See Results		See Results	See Results
Comments						

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

<sup>2</sup> The STR profile of the sample(s) listed are a 100% match for the given sample unless otherwise specified.



# Short Tandem Repeat

Form SOP-89.01  
Version 15.0

Requestor: WiCell Stem Cell Bank, WiCell

Sample Receipt Date: 25Aug25, 22Aug25, 21Aug25, 19Aug25, 15Aug25, 26Aug25, 29Aug25

STR Amplification Date: 09Sep25

Sample Name	BCHi019-A-11-DB68717 p14	BCHi019-A-9-DB68715 p13	BCHi018-A-7-DB68712 p12
WiCell CTR No. <sup>1</sup>	108892	108891	108890
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	28	28	27
Matches <sup>2</sup>	108891	108892	
Comments			

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

<sup>2</sup> The STR profile of the sample(s) listed are a 100% match for the given sample unless otherwise specified.



# Short Tandem Repeat

Form SOP-89.01  
Version 15.0

Requestor: WiCell Stem Cell Bank, WiCell

Sample Receipt Date: 25Aug25, 22Aug25, 21Aug25, 19Aug25, 15Aug25, 26Aug25, 29Aug25

STR Amplification Date: 09Sep25

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

**Results:** The genotypic profiles comprise a range of 26-28 allelic polymorphisms across the 15 STR loci analyzed. Samples 108863, 108953, 108780, 108776, 108861 and 108864 are a 100% match to each other and to 108862, 108816, 108815, 108777, 108755, 108624, 108613, 108572, 108571, 108531, and additional profiles. Additional matches can be provided upon request.

**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 suggest 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%.

9/12/2025	9/16/2025	9/12/2025
<p style="font-size: 2em; margin: 0;">X</p> <p style="margin: 0;">Amber Kuhn</p>	<p style="font-size: 2em; margin: 0;">X</p> <p style="margin: 0;">Michael Mussar</p>	<p style="font-size: 2em; margin: 0;">X</p> <p style="margin: 0;">Dawn Graham</p>
<p>Tech #1</p> <p>Characterization</p> <p>Signed by: Kuhn, Amber</p>	<p>Tech #2</p> <p>Characterization</p> <p>Signed by: Mussar, Michael</p>	<p>QA Review</p> <p>Quality Assurance</p> <p>Signed by: Graham, Dawn</p>

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# Mycoplasma Assay Report

PCR-based assay performed by WiCell  
WiCell Stem Cell Bank, WiCell  
19Aug25

Form SOP-83.01  
Version 7.0

Sample Name	Result	Interpretation
WIBR3-S2-WB68916 p32 (108780)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
EIFIIIi002-A-DB68808 p8 (108779)	Negative	Band was not seen at 270bp, indicating the absence of mycoplasma.
EIFIIIi001-A-DB68807 p8 (108778)	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).

8/19/2025	8/19/2025	8/20/2025
<b>X</b> Steph Dos Santos Tech #1 Characterization Signed by: Dos Santos, Stephany	<b>X</b> Amber Kuhn Tech #2 Characterization Signed by: Kuhn, Amber	<b>X</b> Dawn Graham QA Review Quality Assurance Signed by: Graham, Dawn

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*A gel image is available upon request.*

# Native Product Sterility Report



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

SAMPLE #: 25070686  
DATE RECEIVED: 24-Jul-25  
TEST INITIATED: 25-Jul-25  
TEST COMPLETED: 08-Aug-25

SAMPLE NAME / DESCRIPTION: CVCL\_C7VH-WB68975  
CVCL\_C7VM-WB68994  
CVCL\_C7VN-WB69011  
CVCL\_C7VP-WB68993  
CVCL\_C7VQ-WB68992  
CVCL\_C7VR-WB69005  
CVCL\_C7VT-WB68945  
CVCL\_C7VW-WB68972  
CVCL\_C7VX-WB68985  
CVCL\_C7VY-WB68973  
CVCL\_D3YC-WB69004  
WIBR3-WB68995  
WIBR3-WB69008  
WIBR3-S1-WB68893  
WIBR3-S2-WB68916  
WIBR3-S3-WB68940  
STAN224i-514C3-DB44527  
STAN225i-514C4-DB44531  
STAN261i-698C5-DB35565  
STAN336i-963C1-DB44503  
STAN337i-963C3-DB44506

UNIQUE IDENTIFIER: NA

## TEST RESULTS:

# Tested	# Positives (Growth)	- Control
21	0	2 Negatives

## TEST SUMMARY:

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

## REFERENCE:

Processed according to LAB-003: Sterility Test Procedure

PD #: 000053

# Native Product Sterility Report



TEST METHODOLOGY: USP - Direct Transfer

COMMENTS: Sample #25070686

AUTHORIZED BY Lee Vang

DATE 11 Aug 25

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.