



Thaw and Culture Details

Cell Line Name	WA07
WiCell Lot Number	WB34437
Parent Material	WA07-MCB-05
Provider	University of Wisconsin – Laboratory of Dr. James Thomson
Banked By	WiCell
Thaw and Culture Recommendations	WiCell recommends thawing 1 vial into 1 well of a 6 well plate. WiCell recommends thawing using ROCK Inhibitor for best results.
Culture Platform	Feeder Dependent
	Medium: hESC Medium (KOSR)
	Matrix: MEF
Protocol	WiCell Feeder Dependent Protocol
Passage Number	p27 These cells were cultured for 26 passages prior to freeze. WiCell adds +1 to the passage number to best represent the overall passage number of the cells at thaw.
Date Viald	17-May-2016
Vial Label	WA07 p27 WB34437
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.

Testing Performed by WiCell

Test Description	Test Provider	Test Method	Test Specification	Result
Post-Thaw Viable Cell Recovery	WiCell	SOP-CH-305	≥ 15 Undifferentiated Colonies, ≤ 30% Differentiation and recoverable attachment after passage	Pass
Identity by STR	UW Translational Research Initiatives in Pathology Laboratory	PowerPlex 16 HS System by Promega	Consistent with known profile	Pass
Sterility	Biotest Laboratories	ST/07	Negative	Pass
Mycoplasma	WiCell	SOP-QU-004	Negative	Pass
Karyotype by G-banding	WiCell	SOP-CH-003	Expected karyotype	Pass

Approval Date	Quality Assurance Approval
15-August-2016	<div style="text-align: right;"> <small>8/15/2016</small> X JKG <small>JKG Qual by Assurance Signed by Gay Jemna</small> </div>

Short Tandem Repeat Analysis

Department of Pathology and Laboratory Medicine
TRIP Laboratory (Molecular)
<http://www.pathology.wisc.edu/research/trip>

WiCell®
info@wicell.org
(888) 204-1782

Sample Report:

11710-STR
Sample Name on Tube: 11710-STR
53.5 ng/μL, (A260/280=1.90)
Sample Type: Cells
Cell Count: ~2 million cells

Requestor:

WiCell Research Institute
Quality Department

Sample Date: N/A

Receive Date: 07/11/16
Assay Date: 07/15/16
File Name: STR 160719 wmr
Report Date: 07/21/16

STR Locus	STR Genotype Repeat #	STR Genotype
FGA	16-18,18.2,19,19.2,20,20.2,21,21.2,22, 22.2, 23, 23.2, 24, 24.2, 25, 25.2, 26-30, 31.2, 43.2, 44.2,45.2, 46.2	21,22
TPOX	6-13	8,11
D8S1179	7-18	13,14
vWA	10-22	14,15
Amelogenin	X,Y	X,X
Penta D	2.2, 3.2, 5, 7-17	13,15
CSF1PO	6-15	12,12
D16S539	5, 8-15	12,13
D7S820	6-14	10,11
D13S317	7-15	11,12
D5S818	7-16	11,13
Penta E	5-24	11,13
D18S51	8-10, 10.2, 11-13, 13.2, 14-27	12,15
D21S11	24,24.2,25,25.2,26-28,28.2,29,29.2, 30, 30.2,31, 31.2,32,32.2,33,33.2, 34,34.2,35,35.2,36-38	30,31.2
TH01	4-9,9.3,10-11,13.3	6,6
D3S1358	12-20	15,16

Results: Based on the 11710-STR cells submitted by WiCell QA dated and received on 07/11/16, this sample (Label on Tube: 11710-STR) exactly matches the STR profile of the human stem cell line WA07 comprising 28 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: No STR polymorphisms other than those corresponding to the human WA07 stem cell line were detected and 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. This result suggests that the 11710-STR sample submitted corresponds to the WA07 stem cell line and was not contaminated with any other human stem 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 stem cell lines is ~2-5%.

X_{RMB}

Digitally Signed on 07/21/16

TRIP Laboratory, Molecular

X_{WMR}

Digitally Signed on 07/21/16

PhD, Director / Co-Director
UWHC Molecular Diagnostics Laboratory / UWSMPH TRIP Laboratory

Testing was accomplished by analysis of human genetic polymorphisms at STR loci. This methodology has not yet been approved by the FDA and is for investigational use only.

Acknowledge TRIP in your publications, posters & presentations. For details, see: <http://www.pathology.wisc.edu/research/trip/acknowledging>

TRIP agrees to maintain the confidentiality of any information provided to it in connection with its performance of this STR analysis on the same conditions as set forth in paragraph 2 of WiCell's Terms and Conditions of Service (<http://www.wicell.org/media.acux/1a429b84-2b54-44a4-8ad8-5c05db93dd8a>).

Sterility Report

Biotest Laboratories, Inc.

Making life-saving products possible

BIOTEST SAMPLE # 16070342

VALIDATION # NG

TEST PURPOSE NG

PRODUCT RUES2-WB33580 11727, LT1e-OLIG2GFP-WB37417 11744, WA07-WB35901 11743, MIN19i-33811.D-WB33919 11739, MIN10i-33360.A-WB33910 11731, MIN11i-33360.B-WB33880 11738, MIN05i-33110.2F-WB34134 11732, IISH6i-CML17-WB34443 11730, MIN06i-33110.2H-WB34135 11733, MIN18i-33811.A-WB34313 11734, WA07-WB34437 11735, H9 hNanog-pGZ-WB37309 11741, H1 Oct4-EGFP-WB36220 11742, IISH3i-CB6-WB36684 11740, WA01-WB34444 11736, WA01-WB34445 11737, WA01-WB35185 11728, WA01-WB35186 11729, UCSD067i-19-1-DB25375 11746, UCSD068i-19-2-DB25895 11745

PRODUCT LOT NA

STERILE LOT NA

BI LOT NA

STERILIZATION LOT NA

BI EXPIRATION DATE NA

STERILIZATION DATE NA

DATE RECEIVED 2016-07-07

STERILIZATION METHOD NA

TEST INITIATED 2016-07-08

SAMPLING BLDG / ROOM NA

TEST COMPLETED 2016-07-22

REFERENCE Processed according to LAB-003: Sterility Test Procedure

Twenty (20) products were divided between 40 mL TSB and 40 mL FTG. The sample was then cultured at 20-25 C and 30-35 C respectively and was monitored for a minimum of 14 days.

- USP
- BI Manufacturers Specifications
- Other

RESULTS	# POSITIVES	# TESTED	POSITIVE CONTROL	NEGATIVE CONTROL
No Growth	0	20	NA	2 Negatives

COMMENTS NA

REVIEWED BY _____ DATE 26 JUL 16

Specific test results may not be indicative of the characteristics of any other samples from the same lot or similar lots. Liability is limited to the costs of the tests.

Biotest Laboratories • 9303 West Broadway Ave. • Brooklyn Park, MN 55445 • USA • (763) 315-1200

A subsidiary of STERIS Corporation

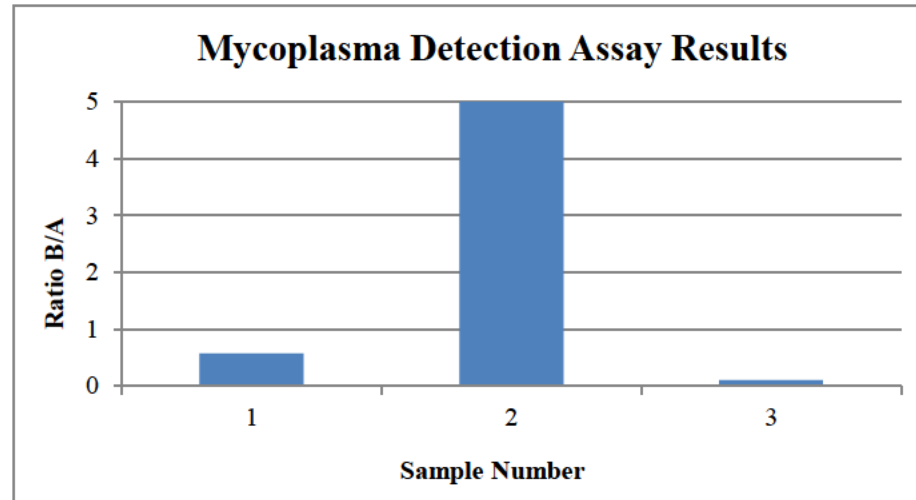


Mycoplasma Detection Assay Report

Testing Performed by WiCell
Lot Release Testing
July 8th, 2016

FORM SOP-QU-004.01
Version F Edition 01
Reported by: SM
Reviewed by: JB
BD Monolight 539

#	Sample Name	Reading A		A Ave	Reading B		B Ave	Ratio B/A	Result	Comments/Suggestions
		RLU1	RLU2		RLU1	RLU2				
1	WA07-WB34437 11710	303	291	297	174	164	169	0.57	Negative	
2	Positive (+) Control	241	239	240	18462	18418	18440	76.83	Positive	
3	Negative (-) Control	340	325	332.5	34	31	32.5	0.10	Negative	



Date Reported: Thursday, June 30, 2016

Cell Line: WA07-WB34437 11710

Passage#: 30

Date of Sample: 6/27/2016

Specimen: hESC

Results: 46,XX

Cell Line Gender: Female

Reason for Testing: Lot release testing

Investigator: [REDACTED], CDM



Cell: 50

Slide: 2

Slide Type: Karyotype

Total Counted: 20

Total Analyzed: 8

Total Karyogrammed: 4

Band Resolution: 450 - 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] PhD, FACMG

A signed copy of this report is available upon request.

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 may not be relied upon by any other party without the prior written consent of the Director of the WiCell Cytogenetics Laboratory. The results of this assay are for research use only. If the results of this assay are to be used for any other purpose, contact the Director of the WiCell Cytogenetics Laboratory.

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.