



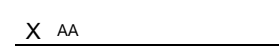
Product Information and Testing

Product Information

Product Name	H9 hOct4-pGZ
Alias	WA09(Oct4D10)
Lot Number	WB22367
Parent Material	H9 hOct4-pGZ-MCB-01
Depositor	University of Wisconsin – Laboratory of Dr. Timothy Kamp
Banked by	WiCell
Thaw Recommendation	Thaw 1 vial into 2 wells of a 6 well plate.
Culture Platform	Feeder Independent
	Medium: mTeSR1
	Matrix: Matrigel
Protocol	WiCell Feeder Independent Protocol and Supplement Culturing with Zeocin
Passage Number	p52 These cells were cultured for 51 passages prior to freeze. WiCell adds +1 to the passage number at freeze so that the number on the vial best represents the overall passage number of the cells at thaw.
Date Viald	01-September-2015
Vial Label	H9 hOct4-pGZ p52 WB22367
Biosafety and Use Information	This cell line is of human origin. 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 STR profile of deposited cell line	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
Expression of Reporter Proteins	WiCell	SOP-CH-032	Expression of reporter proteins reported	Pass

Date of Lot Release	Quality Assurance Approval
11-April-2016	<div style="text-align: right;">7/14/2020</div> <div style="text-align: center;">  X AA AA Quality Assurance Signed by: Arntz, Andy </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:

11392-STR
Sample Name on Tube: 11392-STR
42.6 ng/μL, (A260/280=2.09)
Sample Type: Cells
Cell Count: ~2 million cells

Requestor:

WiCell Research Institute
Quality Department

Sample Date: N/A

Receive Date: 10/02/15
Assay Date: 10/12/15
File Name: STR 151015 wmr
Report Date: 10/20/15

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	26,28
TPOX	6-13	10,11
D8S1179	7-18	8,14
vWA	10-22	17,17
Amelogenin	X,Y	X,X
Penta_D	2.2, 3.2, 5, 7-17	9,13
CSF1PO	6-15	11,11
D16S539	5, 8-15	12,13
D7S820	6-14	9,11
D13S317	7-15	9,9
D5S818	7-16	11,12
Penta_E	5-24	11,14
D18S51	8-10, 10.2, 11-13, 13.2, 14-27	13,13
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	30,30
TH01	4-9,9.3,10-11,13.3	9.3,9.3
D3S1358	12-20	13,16

Results: Based on the 11392-STR cells submitted by WiCell QA dated and received on 10/02/15, this sample (Label on Tube: 11392-STR) exactly matches the STR profile of the human stem cell line WA09 comprising 24 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: No STR polymorphisms other than those corresponding to the human WA09 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 11392-STR sample submitted corresponds to the WA09 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 10/20/15

TRIP Laboratory, Molecular

X *WMR*

Digitally Signed on 10/20/15

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

Biotech Laboratories, Inc.

Making life-saving products possible

WiCell Research Institute, Inc.
WiCell Quality Assurance

BIOTEST SAMPLE # 15101757

VALIDATION # NG

TEST PURPOSE NG

PRODUCT

WA28-WB0201 11409, WA28-WB0202 11410, WA29-WB0203 11411,
WA29-WB0204 11412, WA30-WB0213 11413, WA30-WB0214 11414
WA31-WB0215 11415, WA31-WB0216 11416, WA32-WB0217 11417
WA33-WB0220 11419, WA33-WB0221 11420, WA34-WB0222 11421
WA35-WB0224 11422, WA35-WB0225 11423, WA36-WB0226 11424
WA36-WB0227 11425, WA37-WB0228 11426, WA37-WB0229 11427
WA38-WB0230 11428, WA38-WB0231 11429, WA39-WB0233 11430
WA39-WB0234 11431, WA40-WB0235 11432, WA40-WB0236 11433
WA41-WB0241 11434, WA42-WB0242 11435, WA42-WB0243 11436
WA43-WB0244 11437, WA43-WB0245 11438, WA44-WB0246 11439
WA44-WB0247 11440, WA45-WB0254 11441, WA45-WB0255 11442
WA46-WB0256 11443, WA46-WB0257 11444, WA47-WB0258 11445
WA47-WB0259 11446, H9 hOct4-pGZ-WB22367 11451
MIN05i-33110.2F-WB20162 11452, MIN06i-33110.2H-WB20163 11453

PRODUCT LOT NA

STERILE LOT NA

BI LOT NA

STERILIZATION LOT NA

BI EXPIRATION DATE NA

STERILIZATION DATE NA

DATE RECEIVED 2015-10-21

STERILIZATION METHOD NA

TEST INITIATED 2015-10-23

SAMPLING BLDG / ROOM NA

TEST COMPLETED 2015-11-06

REFERENCE

Processed according to LAB-003: Sterility Test Procedure

Forty (40) products were each cultured in 40 mL TSB at 20-25 C and 40 products were each cultured in 40 mL FTG at 30-35 C and monitored for a minimum of 14 days.

- USP
- BI Manufacturers Specifications
- Other

RESULTS
Sterile

POSITIVES
0

TESTED
40

POSITIVE CONTROL
NA

NEGATIVE CONTROL
2 Negatives

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

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

A subsidiary of STERIS Corporation

BIOTEST SAMPLE # 15101757

COMMENTS NA

REVIEWED BY [REDACTED] DATE 06 NOV 15

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





Mycoplasma Detection Assay Report

Testing Performed by WiCell

Lot Release Test

09-18-2015

FORM SOP-QU-004.01

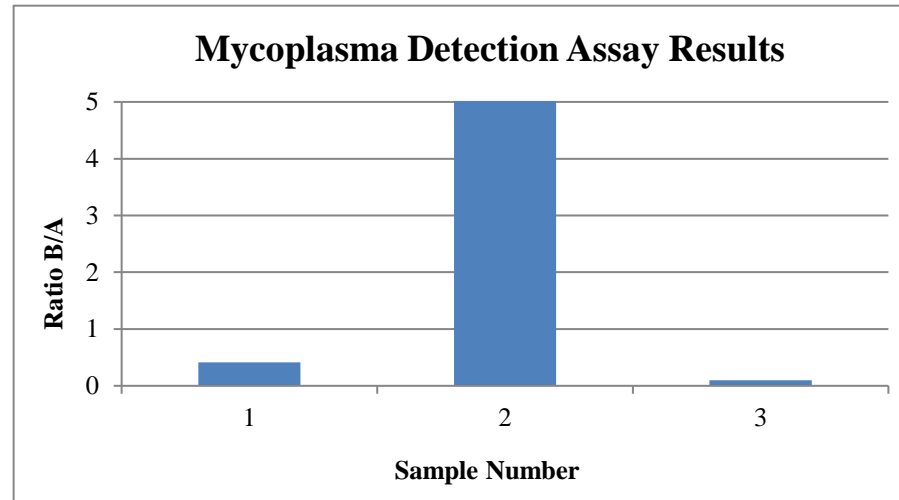
Version E Edition 01

Reported by: SS

Reviewed by: JB

Berthold Flash n' Glo 539

#	Sample Name	Reading A			Reading B			Ratio B/A	Result	Comments/Suggestions
		RLU1	RLU2	Ave	RLU1	RLU2	Ave			
1	H9hOct4-PG2-WB22367 11392	157	159	158	62	68	65	0.41	Negative	
2	Positive (+) Control	214	212	213	13536	13490	13513	63.44	Positive	
3	Negative (-) Control	434	435	434.5	42	45	43.5	0.10	Negative	



Date Reported: Monday, September 28, 2015

Cell Line: H9 hOct4-pGZ-WB22367 11392

Passage#: 53

Date of Sample: 9/21/2015

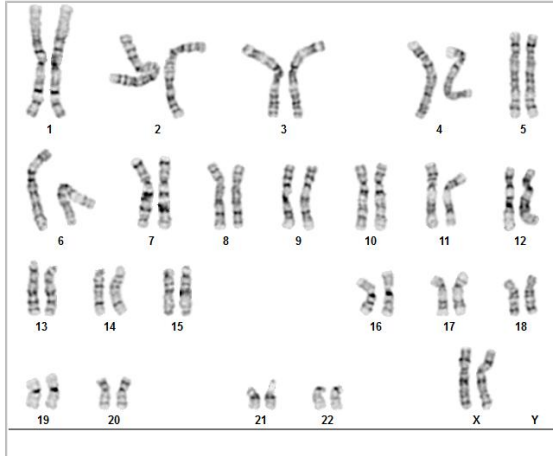
Specimen: hESC

Results: 46,XX

Cell Line Gender: Female

Reason for Testing: Lot release testing

Investigator: [REDACTED], WiCell CDM



Cell: 54

Slide: 1

Slide Type: Karyotype

Total Counted: 20

Total Analyzed: 8

Total Karyogrammed: 4

Band Resolution: 450 - 550

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".

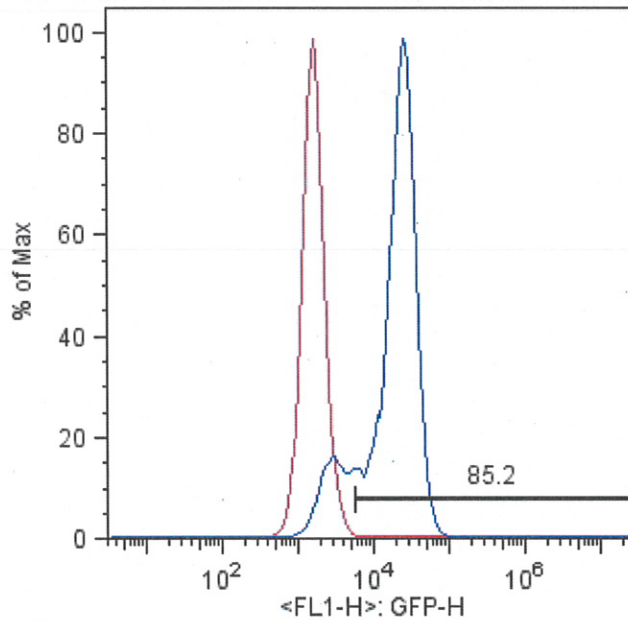
This assay was conducted solely for listed investigator/institution. The results may not be relied upon by any other party without the prior written consent of the Director of the WiCell Cytogenetics Laboratory. The results of this assay are for research use only. If the results of this assay are to 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.



Cell Line-Lot Number	H9 hOct4-pGZ-WB22367
Sample ID	11392
Passage Number	53
Reported By/Date	[REDACTED]
QA Review By/Date	[REDACTED] 30Mar16
Percent Positive for Reporter Protein	85.2
Deviations from Procedure	<input checked="" type="checkbox"/> N/A
Notes	<input checked="" type="checkbox"/> N/A

Histogram Plot Indicating Positive Percentage of the Reporting Gene
Red peak is negative control population. Blue peak is test population.



cells

■	WB22367 11392 97.7
■	Negative control 97.6