



Thaw and Culture Details

Cell Line Name	PENN002i-442-1
WiCell Lot Number	DB35052
Provider	University of Pennsylvania – Dr. Daniel Rader
Banked By	Penn Institute for Regenerative Medicine iPS Core Facility
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	p14 These cells were cultured for 14 passages prior to freeze and post colony picking. Therefore, plated cells at thaw should be labeled passage 15.
Date Vialied	14-January-2015
Vial Label	iPS-442 Sev1 P14 01-14-15 JS
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	Recoverable attachment after passage	Pass
Identity by STR	UW Translational Research Initiatives in Pathology Laboratory	PowerPlex 16 HS System by Promega	Defines profile	Pass
Sterility	Biotest Laboratories	ST/07	Negative	Pass
Mycoplasma	WiCell	SOP-QU-004	Negative	Pass
Karyotype by G-banding	WiCell	SOP-CH-003	Report karyotype	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.

- SNP microarray
- Flow Cytometry (Tra1-60 and SSEA-4)
- Differentiation into hepatocytes
- Infinium® Expanded Multi-Ethnic Genotyping Array (MEGA^{EX})



Approval Date	Quality Assurance Approval
23-June-2016	<p style="text-align: right;">3/5/2018</p> <p>X RK _____ RK Quality Assurance Signed by: Kremers, Erik</p>

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:

11772-STR
Sample Name on Tube: 11772-STR
50.3 ng/μL, (A260/280=1.86)
Sample Type: Cells
Cell Count: ~2 million cells

Requestor:

WiCell Research Institute
Quality Department

Sample Date: N/A

Receive Date: 08/22/16
Assay Date: 08/23/16
File Name: 160825 str jam
Report Date: 08/26/16

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	Identifying information has been redacted to protect donor confidentiality. If more information is required, please, contact WiCell's Technical Support .
TPOX	6-13	
D8S1179	7-18	
vWA	10-22	
Amelogenin	X,Y	
Penta_D	2.2, 3.2, 5, 7-17	
CSF1PO	6-15	
D16S539	5, 8-15	
D7S820	6-14	
D13S317	7-15	
D5S818	7-16	
Penta_E	5-24	
D18S51	8-10, 10.2, 11-13, 13.2, 14-27	
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	
TH01	4-9,9.3,10-11,13.3	
D3S1358	12-20	

Results: Based on the 11772-STR cells submitted by WiCell QA dated and received 08/22/16, this sample (Label on Tube: 11772-STR) defines the STR profile of the human stem cell line PENN002i-442-1 comprising 26 allelic polymorphisms across the 15 STR loci analyzed.

Interpretation: No STR polymorphisms other than those corresponding to the human PENN002i-442-1 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 11772-STR sample submitted corresponds to the PENN002i-442-1 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 08/29/16

TRIP Laboratory, Molecular

X_{WMR}

Digitally Signed on 08/29/16

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

WiCell Research Institute, Inc.
WiCell Quality Assurance



BIOTEST SAMPLE # 16080730

VALIDATION # NG

TEST PURPOSE NG

PRODUCT WA09-RB40917 11779, WA09-RB40918 11780, UCSD223i-NDC1-1-DB26652 11781, STAN002i-161-1-DB31139 11782, PENN001i-87-2-DB36483 11783, PENN002i-442-1-DB35052 11784, PENN066i-427-6-DB35047 11785, PENN074i-415-3-DB35036 11788, PENN134i-61-26-DB35028 11786, WA25-WB40296 11787

PRODUCT LOT NA

STERILE LOT NA

BI LOT NA

STERILIZATION LOT NA

BI EXPIRATION DATE NA

STERILIZATION DATE NA

DATE RECEIVED 2016-08-11

STERILIZATION METHOD EO

TEST INITIATED 2016-08-11

SAMPLING BLDG / ROOM NA

TEST COMPLETED 2016-08-25

REFERENCE Processed according to LAB-003: Sterility Test Procedure

Ten (10) 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
Sterile	0	10	NA	2 Negatives

COMMENTS NA

REVIEWED BY

DATE 20 AUG 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. The uncertainty of measurement associated with the measurement result reported in this certificate is available from the organization upon request.

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 Test

August 5th, 2016

FORM SOP-QU-004.01

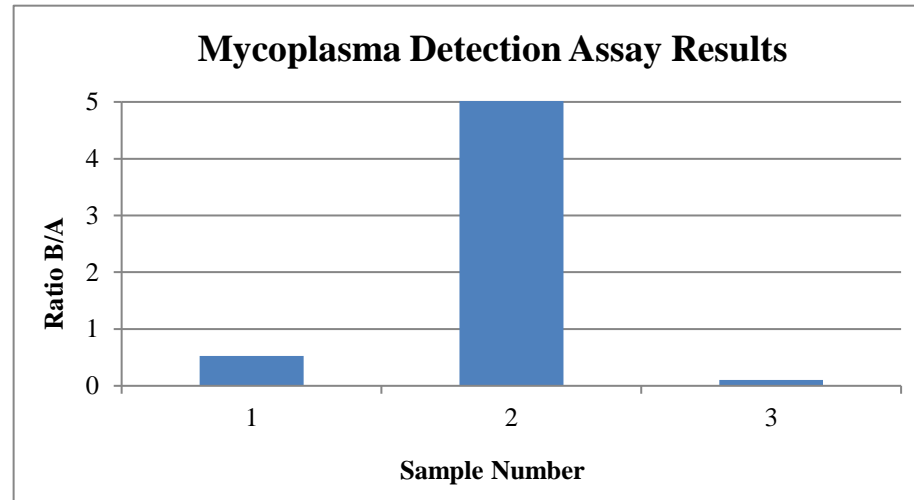
Version F Edition 01

Reported by: SM

Reviewed by: JB

Berthold Flash n' Glo 539

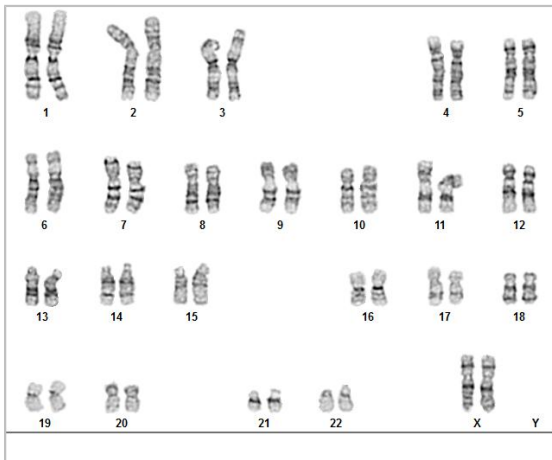
#	Sample Name	Reading A			Reading B			Ratio B/A	Result	Comments/Suggestions
		RLU1	RLU2	Ave	RLU1	RLU2	Ave			
1	PENN002i-442-1-DB35052 11772	237	227	232	121	122	121.5	0.52	Negative	
2	Positive (+) Control	373	381	377	8464	8514	8489	22.52	Positive	
3	Negative (-) Control	237	244	240.5	26	24	25	0.10	Negative	



Date Reported: Monday, August 15, 2016
Cell Line: PENN002i-442-1-DB35052 11772
Passage#: 15
Date of Sample: 8/9/2016
Specimen: iPSC
Results: 46,XX

Cell Line Gender: Female
Reason for Testing: Lot release
Investigator: [REDACTED], WiCell CDM

Nonclonal Findings: 46,X,add(X)(p22.3)



Cell: 51
Slide: 1
Slide Type: Karyotype

Total Counted: 20
Total Analyzed: 8
Total Karyogrammed: 4
Band Resolution: 425 - 475

Interpretation:

This is a normal karyotype. No clonal abnormalities were detected at the stated band level of resolution.

There is one nonclonal finding, listed above. Nonclonal findings likely result from technical artifact, but may be due to a developing clonal abnormality or to low-level mosaicism.

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.

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