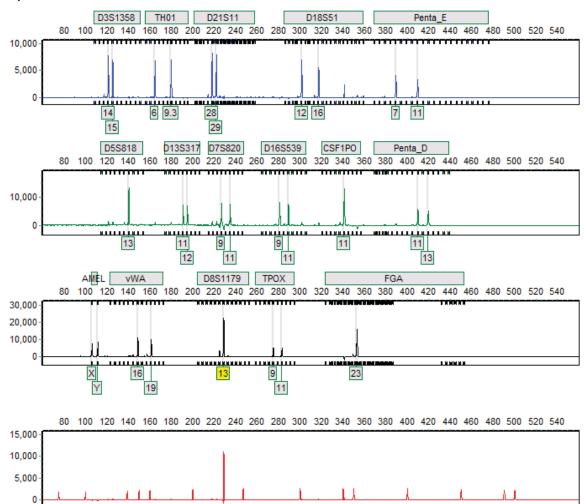
GeneMarker V1.85





Panel: PowerPlex_16_5Nov142UAGC

Size: GS500 x35 x50 x250

Analysis Type: Fragment (Animal)

Report Style: Marker Table

	D3S1358		TH01		D21S11		D18S51		Penta_E	
ARPE19_P15	14	15	6	9.3	28	29	12	16	7	11
2800	17	18	6	9.3	29	31.2	16	18	7	14
H2O										

	D5S818		D13S317		D7S820		D16S539		CSF1PO		Penta_D	
ARPE19_P15	13	13	11	12	9	11	9	11	11	11	11	13
2800	12	12	9	11	8	11	9	13	12	12	12	13
H2O												

	AMEL		vWA		D8S1179		TPOX		FGA		Call
ARPE19_P15	Х	Υ	16	19	13	13	9	11	23	23	no contamination
2800	Х	Υ	16	19	14	15	11	11	20	23	positive control pass
H2O											negative control pass

Notes: Sample matches ATCC ARPE-19 cell line above the 80% match threshold. This is considered a match to ARPE-19 (DSMZ).

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CERTIFICATE OF ANALYSIS

Product Code: 00194987

Product:

H-RPE - Human Retinal

Pigment Epithelial Cells

Lot Number: 0000465423 Manufacture Date: 09-Mar-2015

TEST (Method)	SPECIFICATIONS							
,	Min.	Max.	Results					
Tissue Acquisition Number	***	***	28593					
VIRUS TESTING			2000					
HIV Test	***	***	Not Detected					
HBV Test	***	***	Not Detected					
HCV Test	***	***	Not Detected					
MICROBIAL TESTING								
Sterility Test	***	***	Negative					
Mycoplasma	***	***	Negative					
CELL PERFORMANCE TESTING								
Cell Passage Frozen			2.00					
Viability	>=70%	***	91 %					
Cell Count (Cells/ml)	>= 500,000	***	700500					
Total Population Doublings	>=5 at P2 from cryo	***	7					
Seeding Efficiency	>=40%	***	108 %					
Average Doubling Time	For Information Only	***	48 hrs					
Pan-Cytokeratin Immunostaining	>=90%	***	95 %					
Anti-Fibroblast Staining	***	<=10% Positive	0 %					
ZO-1 Staining	Positive	***	Positive					

These cells were isolated from donated human tissue after obtaining permission for their use in research applications by informed consent or legal authorization. This product is for research use only. Details concerning the use of our cell and media products can be downloaded from our website at www.lonza.com/cell-protocols.

This lot has been reviewed by Quality Assurance in compliance with requirements of Lonza's Quality System. This document was generated from a validated Part 11-compliant electronic system and thus handwritten signatures are not required.

For Technical Assistance, call 1-800-521-0390