

Report of Human Cell Line Authentication

Delivery Date: Apr.08th, 2019

Analysis Date: Apr.16th, 2019

I . Sample

Sample Name: 'JD2923', labeled as 'MCF7', and was received on Apr.08th, 2019

II . Method and Procedure

1. PCR is amplified with STR Multi-Amplification Kit (PowerPlex 21D System);
2. PCR products are assayed with 3100 DNA Analyzer (Applied Biosystems®).
3. Amplification of gene COX1 and electrophoresis are employed to survey the species of the sample.

III. Results

1. The STR profiles of the cell line sample are in the attached table and figure.
2. The search result in ATCC and DSMZ databases.
3. The electrophoresis figure of gene COX1.

MCF7: ①No loci has tri-alleles or tetra-alleles. Contamination of other human cell lines are not found (Figure 1 & Table 1). ② Compared the STR data of MCF7 cell line in the databases of ATCC and DSMZ, all the alleles of MCF7 were exactly matched with the alleles of MCF-7 cell found in both cell banks (Figure 2&3). ③The sample is a human cell line. Contamination of other species cells are not found in the sample (Figure 4).

To all above, the sample is a single cell line, and it is MCF-7 cell line.

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Figure 1. STR profiles of MCF7 cell line

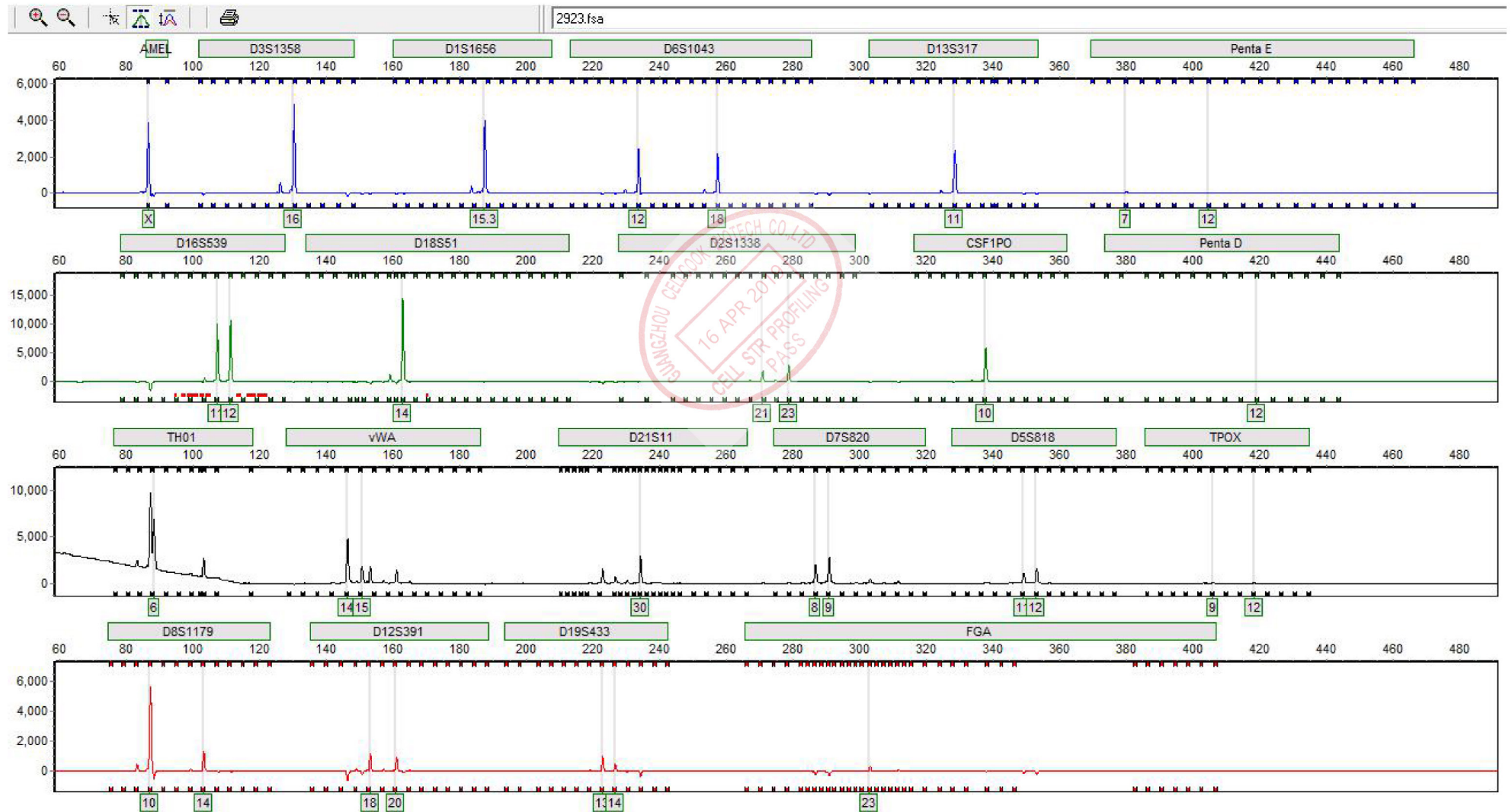


Table 1. STR profiles of MCF7 cell line

21	Allele1	Allele2
AMEL	X	
D3S1358	16	
D1S1656	15.3	
D6S1043	12	18
D13S317	11	
Penta E	7	12
D16S539	11	12
D18S51	14	
D2S1338	21	23
CSF1PO	10	
Penta D	12	
TH01	6	
vWA	14	15
D21S11	30	
D7S820	8	9
D5S818	11	12
TPOX	9	12
D8S1179	10	14
D12S391	18	20
D19S433	13	14
FGA	23	

Figure 2. Search result in ATCC database

SEARCH THE STR DATABASE

As part of our continuing efforts to characterize and authenticate the cell lines in the Cell Biology collection, ATCC has developed a comprehensive database of short tandem repeat (STR) DNA profiles for all of our human cell lines. [View our brief tutorial before starting.](#)

1. [STR Profiling Analysis](#)
2. [Matching Algorithm](#)
3. [Interrogating the Database](#)

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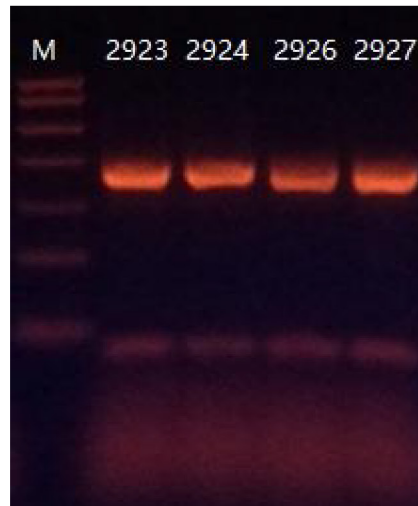
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Add to Cart	%Match	ATCC® Number	Designation	D5S818	D13S317	D7S820	D16S539	vWA	TH01	AMEL	TPOX	CSF1PO
<input checked="" type="checkbox"/>	100.0	HTB-22	MCF7Breast AdenocarcinomaHuman	11,12	11	8,9	11,12	14,15	6	X	9,12	10
<input checked="" type="checkbox"/>	100.0	HTB-22	MCF7Breast AdenocarcinomaHuman	11,12	11	8,9	11,12	14,15	6	X	9,12	10
<input checked="" type="checkbox"/>	82.0	CRL-5900	NCI-H1869Lung CarcinomaHuman	11	11	8,9	12	16	6	X	8,9	10

Figure 3. Search result in DSMZ database

Result of STR matching analysis by your data.												
- DSMZ Profile Database -												
A graphical presentation is shown at the bottom of this page.												
EV	Cell No.	Cell name	Locus names									Figures
			D5S818	D13S317	D7S820	D16S539	VWA	TH01	AM	TPOX	CSF1PO	
			11,12	11,11	8,9	11,12	14,15	6,6	X,X	9,12	10,10	
1.00(36/36)	115	MCF-7	11,12	11,11	8,9	11,12	14,15	6,6	X,X	9,12	10,10	-
1.00(36/36)	HTB-22	MCF7	11,12	11,11	8,9	11,12	14,15	6,6	X,X	9,12	10,10	-
1.00(36/36)	JCRB0134	MCF-7	11,12	11,11	8,9	11,12	14,15	6,6	X,X	9,12	10,10	-
1.00(36/36)	RCB1904	MCF7	11,12	11,11	8,9	11,12	14,15	6,6	X,X	9,12	10,10	-
0.94(34/36)	317	KPL-1	11,12	10,11	8,9	11,12	14,15	6,6	X,X	9,12	10,10	-

Figure 4. Authentication of the species of the sample



M: Marker. As the size of 700, 600, 500, 400, 300, 200 and 100bp from up to down.

Nine species are checked, as follow: *Homo sapiens* 391bp, *Cricetulus griseus* 315bp, *Macaca mulatta* 287bp, *Cercopithecus aethiops* 222bp, *Rattus norvegicus* 196bp, *Canis familiaris* 172bp, *Mus musculus* 150bp, *Bos Taurus* 102bp, IC 70bp

JD2923: The sample. The band size is 391bp which matches the size of human.