

Cell Line Authentication Service

STR Profiling Report

Sample From: Division of Life Sciences and Medicine,
University of Science and Technology of
China, Hefei, Anhui

Sample Type: Cell Line

Testing Method: STR Genotyping

Report Time: May 19, 2024

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Cell Line Authentication – STR Profiling Report

Sample code

Table 1. Sample Code

Customer's code	Company Code
4T1	20240517-01

Sample Number: 1

Sample Type: Cell line

Testing Type: STR

Testing Method:

DNA was extracted by a commercial kit from CORNING (AP-EMN-BL-GDNA-250G). The ten STRs including one human locus were amplified by multiplex PCR and separated on ABI 3730XL Genetic Analyzer. The signals were then analyzed by the software GeneMapper..

Data Interpretation:

Cell lines were authenticated using Short Tandem Repeat (STR) analysis as described in 2021 in ANSI Standard (ASN-0002) by the ATCC Standards Development Organization (SDO) and in Capes-Davis et al., Match criteria for human cell line authentication: Where do we draw the line? Int J Cancer.2013;132(11):2510-9. DSMZ tools was used to carry on the cell line comparison, which contains 2455 cell lines STR data from ATCC, DSMZ, JCRB, ECACC, GNE, RIKEN and EXPASY databases. If the cell is not included in the above cell library, users need to compared with other databases.

Test Results

1. STR profile

Table 2. STR and Amelogenin Genotyping Results of Cell line.

Loci	Sample information				Cell Bank information		
	Sample name: 4T1				Cell line name: 4T1		
	Allele1	Allele2	Allele3	Allele4	Allele1	Allele2	Allele3
18-3	19				19		
4-2	21.3				21.3		
6-7	12				12		
19-2	13				13		
1-2	17				17		
7-1	25.2				25.2		
8-1	13				13		
1-1	15	16			15	16	
3-2	14	15			14	15	
2-1	16	17			16	17	
15-3	22.3				22.3		
6-4	18				18		
13-1	16.2				16.2		
11-2	18	19	20		18	19	20
17-2	15				15		
12-1	16				16		
5-5	14				14		
X-1	25				25		
TH01							
D4S2408							

2. database annotation

Figure 1. STR matching analysis

Accession	Name	N° Markers	Score	STR 1-1	STR 1-2	STR 2-1	STR 3-2	STR 4-2	STR 5-5	STR 6-4	STR 6-7	STR 7-1	STR 8-1	STR 11-2	STR 12-1	STR 13-1	STR 15-3	STR 17-2	STR 18-3	STR 19-2	STR X-1
NA	Query	NA	NA	15,16	17	16,17	14,15	21,3	14	18	12	25,2	13	18,19,20	16	16,2	22,3	15	18,19	13	25
CVCL_0125	4T1	18	100.00%	15,16	17	16,17	14,15	21,3	14	18	12	25,2	13	18,19,20	16	16,2	22,3	15	18,19	13	25

Note: The STR online match analysis of the test cell against EXPASY database, showing cell number (Cell No.) and cell name.

3. Authentication

- The submitted sample profile is mouse, but not a match for any profile in the DSMZ.
- The submitted profile is an exact match for the following human cell line(s) in the DSMZ STR database (8 core loci plus Amelogenin): **4T1**.

The submitted profile is similar to the following DSMZ human cell line: /.

- Note:** A cell line can be considered to be authenticated when 80% (exact match) of the alleles in its STR profile match profiles from tissue or other cell line samples from that donor or from database. Cell lines with between a 55% to 80% (similar) match require further profiling for investigation of relatedness.

Appendix:

1. Genotyping Strategy and Site Distribution

Table S1. Experimental Strategy and Sites

	方案 1	方案 2	方案 3	方案 4
1	18-3	1-2	2-1	TH01
2	4-2	7-1	15-3	D5S818
3	6-7	8-1	6-4	17-2
4	19-2	1-1	13-1	12-1
5		3-2	11-2	5-5
6				X-1

The allele match algorithm compares the 18 core loci only, D5S818, TH01 is a human site, which is used to detect whether the cell is contaminated by human sources.

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Issued by: Yang Bai

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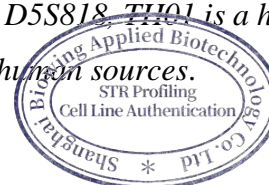


Figure 2. STR profiles of sample cell line

