



## Cell Line Authentication - Make Your Research Reliable!

### Reduce Your Risk

Don't risk working with misidentified or cross-contaminated cell lines. Rely on our experience (>10 years) in genotyping and let us authenticate your cell lines.

### Easy-to-use and Fast

Cells can be shipped at room temperature. Just drop them in one of our numerous drop boxes and receive your analysis result within 1 week.

### Convenient and Broad

Microsynth offers standard cell line testing services for human, mouse, rat, hamster, and dog. Useful add-on services such as database comparison, mycoplasma testing, microsatellite instability testing and species identification are available.

## Why Test Cell Lines?

It is a fact that cross-contamination and misidentification of mammalian cell cultures is widespread. An incredible high number of 15-20% of all cell line based biomedical research is affected by misidentified cell lines. Therefore, it has become a necessity

for any in vitro cell culture experiments to use unambiguously characterized cell lines to get reliable and reproducible results. Moreover, more and more journals (not only those with a high impact factor!) are requesting the authentication of cell lines as

prerequisite for acceptance of manuscripts. Microsynth offers an easy-to-use service for human, mouse, rat, hamster, and dog cell lines.

Rely on our experience and make your research reliable!

## Your Benefits Include

**Easy Sample Handling** - Just send us your cell line at room temperature.

**Easy Sample Shipment** - Just put your cell lines in one of our numerous drop boxes of Microsynth in Europe and benefit from cost-free shipment via a courier service. Alternatively, send the cell lines with your preferred postal service at room temperature.

## Reliable Results within just 1 week

- Microsynth has over 10 years of experience in genotyping. We will isolate and genotype your cell lines and return a meaningful analysis report including electropherogram within 1 week only.

**Multiple Organisms** - Currently a standard cell line typing service

is offered for human, mouse, rat, hamster and dog cell lines. However, we can expand the service to any other organisms on demand. In cooperation with our subsidiary ecogenics GmbH, we are able to develop high-quality microsatellite markers for virtually any organisms. Contact us to discuss your specific needs!

## Useful Add-on Services

- Database comparison of the DNA profile on Cellosaurus
- Mycoplasma contamination testing of cell culture supernatant
- Microsatellite instability testing for continuous cell line monitoring
- Species identification if contamination is unknown

1. Summary Table of the STR Profile

Locus	Chromosomal Location	ATCC Marker	Customer Sample Typed Alleles	Database Alleles	Comments
D3S1358	Chr03		14		2. Electropherogram
TH01	Chr11	Yes	9/9.3		
D21S11	Chr21		30/31.2		
D18S51	Chr18		16/17		
Penta_E	Chr15		5/13		
D5S818	Chr05	Yes	11/12		
D13S317	Chr13	Yes	8/11		
D7S820	Chr07	Yes	13/14		
D16S539	Chr16	Yes	12		
CSF1PO	Chr05	Yes	11		
Penta_D	Chr21		12/13		
AMEL	X/Y	Yes	X		
vWA	Chr12	Yes	18		
D8S1179	Chr08		14/15		
TPOX	Chr2	Yes	10/11		
FGA	Chr04		24/25		

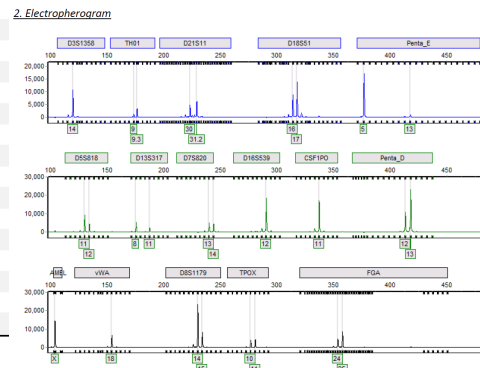


Figure 1: Example Report

## Further Reading

1. ANSI/ATCC ASN-0002-2021. Authentication Of Human Cell Lines: Standardization Of Short Tandem Repeat (STR) Profiling.
2. ANSI/ATCC ASN-0003-2015. Species-Level Identification Of Animal Cells Through Mitochondrial Cytochrome C Oxidase Subunit 1 (CO1) DNA Barcodes.
3. ATCC SDO Workgroup ASN-0002 (2010).

Cell line misidentification: the beginning of the end. *Nature Rev. Cancer* 10: 441-448.

4. Barallon, R. et al (2010). Recommendation of short tandem repeat profiling for authenticating human cell lines, stem cells, and tissues. *In Vitro Cell.Dev.Biol. Animal* 46: 727-732.

5. Chatterjee, R. (2007). Cases of Mistaken Identity. *Science*; 315: 928-931.

6. Almeida, J. et al (2019). Interlaboratory study to validate a STR profiling method for intraspecies identification of mouse cell lines. *PLoS One* 20;14(6):e0218412.
7. Yu, M. et al. (2015). A resource for cell line authentication, annotation and quality control. *Nature* 520:307-311.

## Need More Information?

Call us at +41 71 726 15 53 or

E-mail us at [genotyping@microsynth.ch](mailto:genotyping@microsynth.ch)