Human Cell Line Authentication

Why Cell Line Authentication Matters

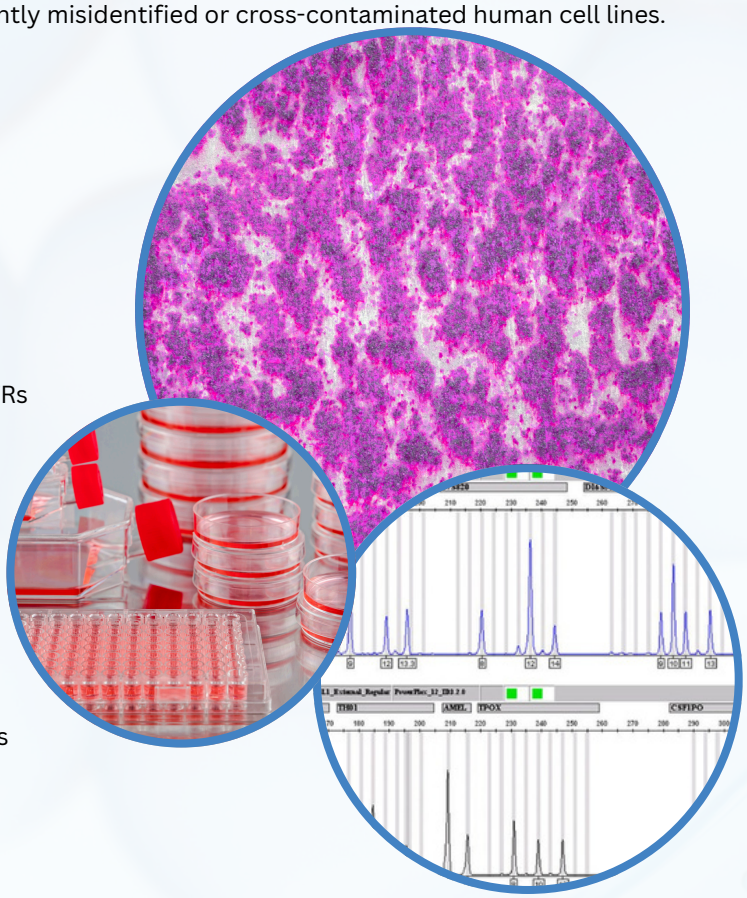
Routine testing of cell cultures is essential, as cell lines are highly susceptible to misidentification, cross-contamination, and genetic drift over time. Failure to detect these issues not only leads to wasted resources including time, labor, and reagents, but also jeopardizes experimental validity, delays drug discovery, and can result in misleading or irreproducible findings.

Recognizing its importance, cell line authentication is now required by several funding agencies (including the NIH and many peer-reviewed journals) and is mandated by the FDA for all biological materials used in Investigational New Drug (IND) applications.

The International Cell Line Authentication Committee (ICLAC) currently lists over 590 misidentified cell lines. HeLa, KB, Intestine 407, Chang Liver, and WISH are among the most frequently misidentified or cross-contaminated human cell lines.

When Should You Authenticate?

- Every 10 passages and at regular intervals
- When establishing a new cell line
- After cell line resuscitation from storage or before freezing
- Before critical experiments or drug screening
- Before publishing or a grant submission



Our Service

- This test is based on STR (Short Tandem Repeat) profiling. STRs are specific regions of repetitive DNA sequences unique to each individual. It is the gold standard for human cell line authentication due to its high discriminatory power and reproducibility.
- STR Profiling of 16 Human Loci (15 + Amel), including loci recommended by ANSI/ASN-0002 standards
- Method: PCR amplification followed by capillary electrophoresis
- Comparison against ATCC and other reference STR databases
- Turnaround Time (TAT): 1 week from sample receipt
- Interpretation report with 16 loci profiles

Sample Requirements

Cell plate (≥1 million cells) - ship frozen on dry ice or in cold packs

Tissue 10-20mg -ship Frozen

Purified genomic DNA - 20–40 ng/µL

References

- ANSI/ATCC ASN-0002-2021. Authentication Of Human Cell Lines: Standardization of Short Tandem Repeat (STR) Profiling
- 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.
- Yu, M. et al. (2015). A resource for cell line authentication, annotation, and quality control. Nature 520:307-311.

Contact us www.bioserve.in info@reprocell.in +91 912 122 9283