

# Cell Line Authentication with Deep Sequencing

Ensure the reproducibility of your research with our deep sequencing-based QC service

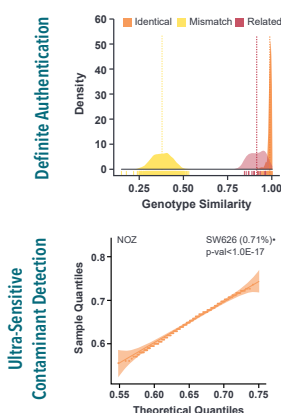
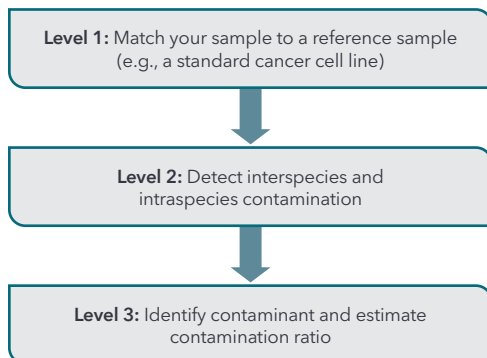
## Cell Line and Biosample Authentication with Deep Sequencing

Outperforms Conventional PCR-based STR/SNP Assays

- Increased Accuracy
- Increased Sensitivity
- Higher Throughput

- Extensive Information
- Lower Cost Per Sample
- Rapid Turnaround

### Achieve Three-Level Authentication



**Suitable Sample Types:**  
Human and mouse samples  
(cell lines, tissues, organoids, and xenografts)

### Use Cases

Catalogue new samples with SNP fingerprints	As a standard QC during experiments
Authenticate samples across multiple species	Simultaneously check for contamination and mycoplasma infection

Cell Line Authentication (CLA) Assay Comparison	CLA with Deep Sequencing	CLA with PCR-based STR Assay
Technology	Barcode Deep Sequencing	Multiplex PCR & capillary electrophoresis
# of DNA sites detected	600+	Usually 9 to 24, depending on the vendors
Readout Type	Digital (clean, near-zero quantification error)	Analog (noisy, high quantification error)
Contamination-Detecting Sensitivity	High (1%)	Low to medium (5-20%)
Accuracy	High	Low to medium
Throughput	Yes	Low
Human Sample Authentication	Yes	Yes
Mouse Sample Authentication	Yes	Limited
Mycoplasma Detection	Yes	No
Viral Infection Detection	Yes	No
Quantification of Contamination Ratio	Yes	No
Interspecies Contamination Detection	Yes	Limited
Intraspecies Contamination Detection	Yes	Limited
Population Structure Inference for Human Samples	Yes	No
Gender Detection for Human Samples	Yes	No
Suitable for Large Biobanks	Yes	No
Tracing Genetic Drift And Constructing Phylogeny of Samples	Yes	No
Suitable for Detecting Contamination for Samples w/o Reference	Yes	No

### Additional information:

- List of authenticatable human and mouse cell lines at <https://qc.crownbio.com>
- NAR Genomics and Bioinformatics, Volume 2, Issue 3, September 2020, lqaa060, <https://doi.org/10.1093/nargab/lqaa060>

### Additional service information:

- <https://www.crownbio.com/technologies/genomics/cell-line-model-authentication>

## Get in touch



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