Human Cell Line Authentication (CLA) Service at OHSU

What is CLA and why is it important?

- A current issue in biomedical research is the misidentification of human and animal cell lines. This has led to a call by federal funding agencies and scholarly journals for reliable cell line authentication. In many cases, authentication of cell lines is now required for publication and grant submission.

- The DNA Services Core offers a human cell line authentication service using the GenePrint 10 system from Promega to confirm the identity of human cell lines. The GenePrint 10 assay uses short tandem repeat (STR) analysis to detect the presence of cell line contaminants or misidentified cell lines. The assay co-amplifies and detects 9 STR loci plus Amelogenin (the gender determining locus); recommended input for the assay is 10ng of cell line DNA.

- Data analysis is completed by comparing STR data from the GenePrint 10 assay to the human cell line STR profile database. This database includes data sets of 2,455 cell lines from ATCC, DSMZ, JCRB and RIKEN.

What services are offered by the DNA Services Core?

- We currently offer three modes of service:
  - Full Service STR Profiling ($96/sample)
    - Includes DNA quantification and quality assessment (DNA QA), GenePrint 10 assay, data analysis, and results report.
  - STR Profiling with Analysis, but without DNA QA ($82/sample)
    - Includes GenePrint 10 assay, data analysis, and results report.
  - STR Profiling and Raw Data Only ($65/sample)
    - Includes only GenePrint 10 assay, no DNA QA, no data analysis, and no formal report.

What is the typical turnaround time?

- Human cell line authentication (CLA) assays will be performed on Tuesday of each week. Samples must be submitted by 4pm Monday to the DNA Services Core in order to have them run the following day. Will be performed within one week of sample request and submission.

For more information about the human cell line authentication service, please visit the DNA Services Core website (www.ohsu.edu/dnaseq) or contact Trevor McFarland at mcfarlat@ohsu.edu.