February 25, 2015

SNP Trace™ Panel A Resource For Cell Line Authentication

PLOS ONE Paper Profiles 907 Human Cell Lines

SNP Trace™ PANEL PROVES TO BE A HIGH-THROUGHPUT, COST-EFFECTIVE SNP-BASED PLATFORM FOR PROFILING HUMAN TISSUE AND CELL LINES

SOUTH SAN FRANCISCO, Calif., Feb. 25, 2015 -- Researchers at Genentech, Inc., a member of the Roche Group, and Fluidigm Corporation have used its SNP Trace™ panel to generate a database of SNP profiles for 907 cancer cell lines as a resource for cell line authentication. This information was published in the current issue of the journal PLOS ONE in a paper entitled “Human biosample authentication using the high-throughput, cost-effective SNP Trace™ system” (http://dx.plos.org/10.1371/journal.pone.0116218).

The SNP Trace panel generates a unique genomic profile of any human cell line or tissue sample. The authors found SNP profiling with the SNP Trace panel to be an effective and sensitive cell line authentication method comparable to short tandem repeat (STR) profiling.

Human cell lines and patient-derived tissues are essential for biomedical research. It has been estimated that between 15-35% of human cell line cultures are contaminated or misidentified in some manner which could result in the publication of false results and lead to subsequent retractions. Although cell line misidentification and contamination is a widespread and known problem, many researchers have not incorporated cell line authentication and quality control in their laboratories because current STR profiling methods are error prone and laborious.

In this paper, the authors compared the ability of the SNP Trace panel to identify and authenticate cell lines to the performance of STR profiling, the current ANSI standard for cell line authentication. Pairwise comparison of SNP profiles generated by the SNP Trace panel detected identical or replicate samples as well as distinguished unique, but closely related, samples with a degree of confidence equivalent to STR profiling. SNP Trace also corrected the existing annotation for the cell lines by correctly assigning sex to the samples after Y chromosome exclusion.

“We demonstrated that the SNP Trace Panel is a DNA profiling technology which can be used alone or in conjunction with established cell line authentication methods for labs to continually monitor cell line identity. We have demonstrated that SNPs provide a fast, reliable, accurate and cost-effective method for assessing cell line or human biosample identity and intra-human cross-contamination,” said Nico Tuason, Senior Product Manager, Fluidigm. “We hope this information will help establish SNP profiling as a strong alternative or complementary option to STR profiling.”

The Technology

The SNP Trace Panel was tested on 907 human cell lines generating SNP profiles at least as accurate as current STR profiling. SNP profiling reduces hands-on time more than 20-fold, according to the authors and lowers cost as much as six-fold per sample compared to STRs.

The Fluidigm SNP Trace Panel is a set of 96 SNPs for DNA sample quality control and identification that:

- Confirms cell line identity to find sample annotation errors
- Assesses sample quality for samples that may not perform well in a GWAS or NGS experiment
- Detects unexpected duplicates or sample contamination
- Assigns a DNA profile to enable biological sample tracking throughout any downstream analysis

About Fluidigm

Fluidigm (NASDAQ:FLDM) develops, manufactures, and markets life science analytical and preparatory systems for growth markets such as single-cell biology and production genomics. We sell to leading academic institutions, clinical laboratories, and pharmaceutical, biotechnology, and agricultural biotechnology companies worldwide. Our systems are based on

proprietary microfluidics and multi-parameter mass cytometry technology, and are designed to significantly simplify experimental workflow, increase throughput, and reduce costs, while providing excellent data quality. Fluidigm products are provided for Research Use Only. Not for use in diagnostic procedures.

We use our website (www.fluidigm.com), corporate Twitter account (@Fluidigm), Facebook page (https://www.facebook.com/Fluidigm), and LinkedIn page (https://www.linkedin.com/company/fluidigm-corporation) as channels of distribution of information about our products, our planned financial and other announcements, our attendance at upcoming investor and industry conferences, and other matters. Such information may be deemed material information and we may use these channels to comply with our disclosure obligations under Regulation FD. Therefore, investors should monitor our website and our social media accounts in addition to following our press releases, SEC filings, public conference calls, and webcasts.

Contact

Ana Petrovic
Director, Investor Relations & Strategy
Fluidigm Corporation
650 243 6628 (office)
ana.petrovic@fluidigm.com

Michaeline Bunting
Senior Director, Marketing
Fluidigm Corporation
650 737 4190
michaeline.bunting@fluidigm.com