



LC Sciences Seeks Beta Testers of Targeted Sequencing Method Ahead of Q4 Launch

Houston, TX. - LC Sciences LLC, a leading developer of genomics and proteomics technologies, announced today that it is seeking beta testers for the VariantPro™ targeted sequencing system, an innovative multiplex PCR based targeted sequencing technology. The system offers cost-effective, minimal hands-on, ultra-high resolution sequence analysis, that enables accurate detection of rare variants. It utilizes novel and patent pending Relay-PCR™ and Omega-Primer™ technologies. The company will collaborate with beta testers to generate test data sets, establish the limits of the technology by testing on difficult sample types and challenging design projects, and develop clinically relevant standard panels.

NGS technologies have already had a tremendous impact on functional genomics research and their routine clinical use is imminent. Though whole genome sequencing is now possible, there remain instances where ultra-high resolution analysis is required, such as detecting rare disease causing variants, or ensuring the accuracy and reproducibility of a clinical test. Additionally, when only several, specific genes or genomic regions are of interest as in the case of precision medicine and where time, expenses, and data storage are limiting factors, targeted sequencing is a logical choice.

Currently available targeted sequencing methods suffer from low uniformity, sequence drop out, complicated work flow, lengthy hands-on time, and/or high up-front equipment investment. The VariantPro system from LC Sciences is a simple and robust multiplexing PCR method that effectively overcomes all of these challenges.

One innovation in the VariantPro system is Relay-PCR, in which one pair of common (indexed library) primers and multiple pairs of specific primers are mixed with a genomic DNA sample in a single tube. A single PCR run seamlessly combines two functionally separated reaction phases, namely target replication and library amplification. This results in a significantly simplified work flow. The new method brings a profound change to multiplexing PCR by limiting the role of specific primers to only the first two thermo cycles for target selection and enabling an automatic switch to common primers in the remaining thermo cycles for library amplification. This relay-switch to common primers eliminates a significant cause for amplicon to amplicon variations common to traditional multiplexing PCR due to priming efficiency variations among specific primers which are exponentially amplified when used as amplification primers.

Another innovation in the VariantPro system is Omega-Primer which is composed of three functional sections: a 5p arm designed to ensure stable binding to a corresponding template, a 3p arm designed to double check sequence specificity and initiate polymerase extension, and a separation segment between the two arms. The use of two separate binding sections provides primer design freedoms that balance priming specificity and binding strength. Omega-Primers generally have much shorter 3p arms than that of regular primers and thus have a statistically much lower chance of forming amplifiable primer-primer dimers in a multiplex PCR setting. Additionally, only the short 3p arms are incorporated into amplicon products, thus the sections of native templates in sequencing reads are maximized.

2575 West Bellfort St.
Suite 270
Houston, TX 77054
USA

PHONE (888) 528-8818
FAX (713) 664-8181
E-MAIL info@lcsciences.com
WEB SITE <http://www.lcsciences.com>

LC Sciences has also developed new approaches for quantitative prediction of PCR performance and has incorporated these new approaches into a computer program for the multiplexing PCR primer designs.

According to Chris Hebel, the company's VP of Business Development, "Unlike current multiplex PCR targeted sequencing methods that suffer from inherent sequence bias, complicated work-flows, and/or up-front equipment investment, VariantPro effectively balances uniformity, specificity, coverage, and multiplexing level in an elegantly simple one step reaction via Relay-PCR on a regular PCR machine, thus requiring less hands-on work and less sequencing depth per sample."

About LC Sciences

LC Sciences is a global biotechnology company providing products and services to genomics and proteomics researchers across an array of markets for nucleic acid/protein analysis, biomarker-discovery and drug development. These innovative products and comprehensive services are based on several unique, core technology platforms developed by the scientists at LC Sciences. For 10 years now, the company has been providing researchers with access to innovative technologies that are enabling significant genomics and proteomics discoveries. In addition to basic research, these technologies are being applied in the areas of environmental science, agricultural research, bio-defense, forensics, clinical diagnostics, and drug development. The flexibility and power of these technologies has enabled LC Sciences to deliver a strong value proposition, including a rich product line that continues to grow and diversify, serving these rapidly advancing markets.

Contact

To enroll in the beta test program and receive early access to VariantPro technology at a significantly reduced cost, please contact Chris Hebel at (713) 664-7087 or chebel@lcsciences.com.