Rainbow Genomics Launches Pan-Cancer Test to Detect Genomic Rearrangements and Genetic Disorders Associated with Cancers

Dual Large Genomic Rearrangement Sequencing and Whole Exome Sequencing Increases Diagnostic Yields for Hereditary Cancer Patients and Asymptomatic Individuals

Evidence-Based Genomic Testing

SAN FRANCISCO, CALIFORNIA, UNITED STATES, October 3, 2021 /EINPresswire.com/ -- Hong Kong and U.S. based Rainbow Genomics announced today the introduction of the Rainbow Pan-Cancer(TM) Test, to determine large genomic rearrangements (LGRs) from 30 medically-actionable cancer genes, plus hereditary cancer gene mutations and genetic disorders that can cause cancers using over 20,000 genes from the human exome.

This approach is unique because the test -

• Determines Large Genomic Rearrangement (LGR) - Based on recent worldwide cancer research, including studies in Asia, large genomic rearrangements are often pathogenic, and are more prevalent in early-onset cancer patients (Age <40). LGRs are also more prevalent in key hereditary cancer genes such as the BRCA1 gene, compared to other cancer genes. Yet, this is a class of mutations typically not included in commercial and government-provided cancer testing because of technological and validation challenges.

• Covers Genetic Disorders that can cause Cancers - Many genetic disorders are associated with elevated cancer risks. Most hereditary cancer tests do not cover these conditions. Whole exome sequencing can detect mutations in genes associated with these genetic disorders, providing a more comprehensive screening result compared to conventional testing of only a small number of hereditary cancer genes.

The Rainbow Pan-Cancer Test uses a dual, large genomic rearrangement (LGR) sequencing and whole exome sequencing approach.

A. 30-gene LGR sequencing to:

- Test 30 medically-actionable genes
- Utilize capture probes that cover both coding exons and intronic regions to detect LGRs
- Analyze LGRs using proprietary and validated bioinformatics
- Confirm LGR findings with Sanger sequencing, PCR, microarray or MLPA assays before a clinical report is issued
- Report other mutations in these 30 genes associated with hereditary cancers, including single nucleotide variants, small insertions and deletions

B. Whole exome sequencing is also performed simultaneously to:

- Test over 20,000 genes from the human exome
- Analyze mutations in genes associated with hundreds of genetic disorders that can cause cancers
- Perform deep analysis of 120 hereditary cancer genes, and report copy number and single nucleotide variants, splice variants, and indels
- Report mutations in newly-published, novel cancer genes

“This is a comprehensive hereditary cancer test covering most mutation types that can be detected using advanced genomic technologies. Specifically, we are pleased to have access to proprietary sequencing design coupled with validated bioinformatics and confirmatory testing, to determine large genomic rearrangements,” said Daniel Siu, CEO of Rainbow Genomics. “We aim to provide a higher diagnostic yield compared to what has been reported in the literatures, by covering challenging gene variants, including rare mutations captured by whole exome sequencing.”

About Rainbow Genomics

Rainbow Genomics (www.rainbowgenomics.com) is committed to providing clinically-validated genomic testing to Asian, Caucasian, mixed-race, and local minority populations. The company delivers high diagnostic success for physicians, enabling timely-treatment for patients that can benefit from immediate medical interventions.

Utilizing a multi-technology-platform approach, including whole genome, whole exome and RNA sequencing, high-resolution microarray, long-read and Sanger sequencing, high-density DNA array genotyping, and through multiple international collaborations, Rainbow Genomics delivers a diagnostic yield meeting or exceeding the highest standards reported by leading U.S. and European medical institutions.

In Asia, Rainbow Genomics provides validated and accredited clinical testing services. For clients in the U.S. and European countries, the company provides “For Research Use” data analysis,

genomic interpretation and confirmatory sequencing services.

All Rainbow Genomics tests are performed in CLIA-certified and CAP-accredited high-complexity clinical laboratories. Patient privacy is protected by Rainbow’s HIPAA-compliant clinical testing process.

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