Rainbow Genomics Launches Polygenic and Trait Analysis for Obesity Management Using Whole Genome Sequencing

Metabolic Disorder Genetic Analysis, Coupled with Nutrigenomic and Exercise Adaptation Trait Assessment, Enables Lifestyle Changes to Reduce Obesity

SAN FRANCISCO, CA, UNITED STATES, September 19, 2022 /EINPresswire.com/ -- U.S. and Hong Kong-based Rainbow Genomics launches a comprehensive obesity genetic analysis program, including whole genome sequencing to identify genomic variations associated with metabolic disorders, responses to food and nutrition, eating behavior and exercise adaptation.

Obesity is considered by many physicians as a chronic disorder, with Body Mass Index (BMI) as one of the parameters to indicate high body fatness and overweight. BMI is highly heritable, and over 40–70% of the variability in BMI can be explained by genetic factors. Overweight individuals are susceptible to increased risk of developing diabetes, heart disease, stroke, and other metabolic diseases.

Part of the obesity risk is conferred by gene variants including mutations in a single gene, and polygenic changes associated with multiple genes. Additional obesity risks are associated with genetic traits with strong behavioral characteristics, including appetite, eating behavior and exercise adaptation.

The Rainbow Comprehensive Obesity Genetic Analysis Program is part of the many reports provided by the Rainbow Adult 8000™ Whole Genome Sequencing Test. The test screens for monogenic mutations and polygenic risks associated with metabolic disorders. In addition, multiple Asian-specific genetic traits are also determined, including genetic changes associated with BMI, appetite, eating behavior, diet preferences, nutrition absorption abnormality and adaptations to various forms of exercise.

A comprehensive analysis of these findings supports patients who are at risk of obesity to adopt a modified diet and lifestyle that could reduce their risks. The multifaceted findings are explained to patients in simple English and Chinese by a genetic counselor. Patients with pathogenic mutations associated with obesity, metabolic or cardiovascular disorders will also be referred to physician specialists for follow up.

For more information about the Rainbow Comprehensive Obesity Genetic Analysis Program and

the Rainbow Adult 8000™ Whole Genome Sequencing Test, please visit our website or email us at info@rainbowgenomics.com

About the Rainbow Whole Genome Sequencing Test

The test provides five clinical reports:

1. Personal Health Assessment

• Cancers
• Cardiovascular Disorders
• Endocrine System Abnormality including Diabetes and Fatty Liver
• Sleep Disorders
• Hearing and Eye Disorders
• Skeletal and Bone Disorders
• Immune System Disorders
• Skin Abnormality
• Auto-inflammatory Disorders
• Behavioral Abnormality
• Neurological Disorders including Dementia and Alzheimer Disease

2. Reproductive Health Assessment

• Male Infertility
• Female Infertility

3. Whole Genome Carrier Status

• Carrier Screening Analysis of Disorders Recommended by the American College of Obstetricians and Gynecologists and the American College of Medical Genetics

• Whole Genome Carrier Analysis - Mutations in 2500 genes associated with recessive disorders that can be passed on to the patient's children

4. Common Disease Risk Assessment

• Common complex diseases such as diabetes, heart attack, and stroke are primarily caused by changes in multiple gene variants (polygenic risks). However, these variants are highly ethnic-specific. Polygenic risk assessment for ethnic-specific groups such as Asians is difficult because very few publications using Asian patients and healthy controls with statistical significance are available.

• Rainbow Genomics’ expert-curated polygenic variants are highly ethnic-specific and are

supported by large-scale genome wide association and replication studies using tens of thousands of patients and controls collectively from Asia, U.S. and European countries.

5. Pharmacogenomic Assessment of 185 Medications to Improve Clinical Outcome

• For chronic disorders, achieving risk-reduction targets through improving medication adherence is critical. Pharmacogenomic assessment enables high therapeutic efficacy through minimization of drug side effects, resulting in better treatment outcome.

6. Rainbow Comprehensive Obesity Genetic Analysis Program and Report

About Rainbow Genomics

Rainbow Genomics (www.rainbowgenomics.com) is committed to providing clinically-validated genomic and proteomic 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 proteomics, whole genome, whole exome, RNA, long-read, methylation, single cell and Sanger sequencing, high-resolution microarray testing, and 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.

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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