MONTREAL, Oct. 23, 2013 /PRNewswire-iReach/ -- Micropharma Limited, a pioneer in the development of microbiome based technologies announced today the completed development of a new lab test to quantify bile salt hydrolase (*bsh*) gene abundance in gut-derived samples.

bsh

is a bacterial gene that produces an enzyme that is active in the human GI tract and modifies the bile acid population to provide a number of health benefits to the host organism. Scientific reports have recently shown that individuals with inflammatory and metabolic ailments including inflammatory bowel disease, irritable bowel syndrome, hypercholesterolemia and type II diabetes present low quantities of

bsh

gene in their gastrointestinal microbiome. Microbiome SenseIT

bsh

, the lab test, will serve to provide health care practitioners and patient with additional information regarding the abundance of the gene. SenseIT

bsh

is the first of its kind to use Bio-Rad droplet digital PCR technology which allows for absolute quantification of gene copies with accuracies of 95%.

Using bioinformatics tools, researchers at Micropharma identified the genetic sequences of the

bsh

genes present in the gut to develop Microbiome SenseIT

bsh

. The test was validated using metagenomic sequencing and qPCR technologies. Currently, the gene quantification is done by sequencing DNA extracted from gut-derived samples followed by a computer-intense bioinformatics analysis which is time consuming and costly. Microbiome SenseIT

bsh

can produce results within a few hours at a fraction of the cost of sequencing. The test consists of producing approximately 20000 nanoliter-volume droplets, which are filled with a diluted DNA sample. After droplet generation, PCR amplification follows using gene specific primers and fluorescently-labeled probes, so that the droplets containing the

bsh

gene become fluorescent. Finally,

bsh

positive and negative droplets are numbered in a droplet counter to produce the final result. Dr. Ganopolsky was quoted as saying "The technique is so sensitive that can detect only one copy of the gene without false positives". In addition, the accuracy of droplet digital PCR is up to 10 times higher than the traditional qPCR, which is necessary in this type of analysis. Micropharma aims to expand the development of the SenseIT platform which represents the first approach to personalized medicine tests based on microbiome analysis.

About Micropharma Limited

Micropharma is a Canadian biotechnology company focused on human health through the microbiome. The company applies a unique approach, ProSelect, to the discovery and commercialization of novel products based on the human microbiome for the diagnosis and treatment of metabolic diseases. Micropharma works on disease specific products with clear microbiome related mechanisms, and links to biomarkers that are associated with improving human health. Micropharma is developing diagnostics and oral biologic therapies in the area of metabolic disease including hypercholesterolemia, metabolic syndrome, obesity, and diabetes. For more info go to www.micropharma.net

Media Contact: Mitchell Jones, Micropharma Limited, 514-927-5333, mitchell@micropharma.net

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