Genetic Analysis co-develops HumGut – the world's first complete database of reference genomes from the human gut microbiome

(Oslo, 5 August 2021) Molecular diagnostics specialist, Genetic Analysis AS (GA) today announced the first publication from the comprehensive HumGut microbiome database has appeared in the leading scientific journal *Microbiome*. HumGut comprises a collection of about 30,000 genomes, covering the broad diversity of bacterial genomes found in the human gut. Unique to HumGut is that the genome collection has been filtered towards nearly 6000 metagenomes from healthy humans, classifying on average 95% of all metagenome reads and making it superior to all other genome collections. This work is funded by the Norwegian University of Life Sciences (NMBU) and GA with support from the Research Council of Norway through an Industrial PhD program.

Knut Rudi, professor in microbiology, Faculty of Chemistry, Microbiology and Food Science (KBM), NMBU and co-author of the paper commented: "The healthy human gut is now completely mapped. With this database, the field of microbiomics leaves behind the discovery phase and enters a new world of possibilities to find novel targets and bacteria panels to develop innovative solutions. We are confident that HumGut will add considerable value to research and development for both industry and academia."

Accurate classification is essential in the development of targeted human gut microbiota diagnostic and therapeutic approaches. With a 95 % classification accuracy, HumGut has reached the milestone of being able to serve as a reference in these developments.

GA and NMBU envisage HumGut being used for meta-studies of the human gut in order to make new discoveries about the relationship between the microbiota and diseases. To facilitate this, the database will be made publicly available for any kind of research within the gut microbiome eco-system.

Ronny Hermansen, CEO, Genetic Analysis added: "GA is proud to be an active participant of this important collaborative work with NMBU. To map and unlock the genes present in a healthy gut is instrumental for developing new diagnostics and better treatment regimes. GA will actively use this powerful search engine and database to identify novel gut signatures which we can plug onto our GA-map® technology platform in order to develop new innovative diagnostic markers within the microbiome field.

GA will continue to sponsor the maintenance and upgrades of the database in the future.

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*Hiseni P, Rudi K, Wilson RC, Hegge FT, Snipen L. HumGut: a comprehensive human gut prokaryotic genomes collection filtered by metagenome data. Microbiome. 2021 Jul 31;9(1):165. doi: 10.1186/s40168-021-01114-w. PMID: 34330336.

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About Genetic Analysis

Genetic Analysis AS (GA) is a science-based diagnostic company and pioneer in the human microbiome field with more than 10 years of expertise in research and product development. The unique GA-map® platform is based on a pre-targeted multiplex approach specialized for simultaneous analysis of a large number of bacteria in one reaction. The test results are generated by utilizing the clinically validated cutting edge GA-map® software algorithm. This enables immediate results without the need of further bioinformatics work. GA's vision is to become the leading company for standardized gut microbiota testing worldwide, and GA is committed to help unlocking and restoring the human microbiome through its state-of-the-art technology. GA holds 22 highly qualified employees with relevant scientific backgrounds and with competence in bioinformatics, molecular biology, and bioengineering. www.genetic-analysis.com

About Norwegian University of Life Sciences

Founded in 1859 as the Norwegian Agricultural Postgraduate College, the Norwegian University of Life Sciences (NMBU) is today a hub of expertise within life sciences, natural sciences, environmental sciences and in the arena of sustainable development. NMBU has 1,800 employees of which about 250 PhD students and 6,000 students. NMBU`s vision is "Knowledge for life" and NMBU's mission is to contribute to the wellbeing of the planet. The interdisciplinary research and study programs generate innovations in food, health, environmental protection, climate and sustainable use of natural resources. Respect for environment, animals, and humans in existing and future generations is central in the core values of NMBU. The Faculty of Chemistry, Biotechnology and Food Science (KBM) employs about 160 people. KBM represents a broad range of scientific fields encompassing basic natural sciences such as microbiology, chemistry, biochemistry as well as the application of these towards food chemistry, technology and safety, biotechnology, bioprocessing and environmental issues. The Faculty is responsible for education, research and information within our fields of expertise and also has state-of-the-art instrumentation to perform research within these fields. https://www.nmbu.no/en/faculty/kbm