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COVID-19: LifeDNA and University of Hawai‘i Collaborate on Studying Why Certain Populations Are Hit Harder

Research focuses on ACE2 receptor, probing the role of genetics in both susceptibility to infection and severity of response

HONOLULU, April 2nd, 2020 — LifeDNA, Inc., a pioneering personal genomics company, has initiated a coronavirus study aimed at understanding why certain individuals and racial/ethnic groups are more prone to the infection and may suffer a more severe course of COVID-19.

“COVID-19 has upended daily life for citizens around the globe,” said Cyril Moukarzel, CEO of LifeDNA, Inc. “Based on genetics, certain individuals and populations may be impacted more severely. LifeDNA’s scientists are working tirelessly to add to the body of knowledge regarding the effect of these genetic variations.”

Honolulu-based LifeDNA is collaborating with molecular epidemiologist Maarit Tiirikainen, Ph.D., Associate Professor at the University of Hawai‘i at Mānoa. The study will initially focus on the multi-ethnic population of Hawai‘i and genetic variants of the ACE2 gene as they relate to infection with the severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the virus that causes COVID-19.

“There have been major differences in the rates of SARS-CoV-2 infection and the severe disease between the different geographic regions since the beginning of the COVID-19 pandemic, even among young individuals,” Dr. Tiirikainen said. “Epidemiological studies—so-called Genome Wide Association Studies (GWAS)—indicate that populations carry different variants of the ACE2 gene. This variation in the gene coding for the ACE2 receptor may have an effect on the number of ACE2 receptors on the lung cells, as well as on how effectively the virus binds to the receptor. There may also be genetic differences in immune and other important genes explaining why some people get more sick than others.”
For more than three years now, LifeDNA has been utilizing published GWAS data to provide reports on the association of genetic variants to various human traits. In this global health crisis, LifeDNA will focus its scientific resources on determining why certain individuals and ethnic populations seem more prone to the SARS-CoV-2 infection and may also have a more severe course of the COVID-19 disease. The differences in the severity of the disease may also have an effect on future lung cancer incidences in different populations, especially when augmented by smoking.

The genotyping for the study will be done at the Kaka’ako Genomics and Bioinformatics Shared Resource (co-directed by Dr. Tiirikainen) at the University of Hawai‘i Cancer Center.

LifeDNA expects that the findings of its study will allow for identifying the most vulnerable individuals and populations ahead of time in future SARS virus-family outbreaks. The company also envisions pharmacogenomics collaborations on life-enhancing and lifesaving preventive therapeutics, such as those utilizing CRISPR-Cas9 gene editing technology. While LifeDNA has yet to initiate formal partnership dialogue, companies with this relevant domain expertise include CRISPR Therapeutics AG, Editas Medicine, Inc. and Intellia Therapeutics, Inc.

About LifeDNA

LifeDNA is a leading personal genomics company headquartered in Honolulu. The company’s mission is to help people lead healthier and more fulfilling lives by unlocking the power of their unique DNA. LifeDNA’s offerings include a self-administered, cheek swab DNA test kit and reports on 137 traits in the following categories: health, personality, fitness, nutrition and skin. Consumers who have already taken a DNA test with 23andMe, Ancestry or MyHeritage may upload their DNA raw data files (DNA test results) to gain deeper insight with LifeDNA’s critically acclaimed reports. LifeDNA is headquartered in Honolulu and privately backed by Markowitz Trust and other investors. Learn more at www.lifedna.com. Like LifeDNA on Facebook at https://www.facebook.com/golifedna/. Follow LifeDNA on Twitter @golifedna.

About the University of Hawai‘i Cancer Center

The University of Hawai‘i Cancer Center through its various activities, cancer trial patients and their guests, and other visitors adds more than $54 million to the O‘ahu economy. It is one of only 71 research institutions designated by the National Cancer Institute. Affiliated with the University of Hawai‘i at Mānoa, the Center is dedicated to eliminating cancer through research, education, patient care and community outreach with an emphasis on the unique ethnic, cultural, and environmental characteristics of Hawai‘i and the Pacific. Learn more at www.uhcancercenter.org. Like UC Cancer Center on Facebook at www.facebook.com/UHCancerCenter. Follow the UH Cancer Center on Twitter @UHCancerCenter.