MedGenome's study suggests a personalized cancer vaccine approach to treat Lynch Syndrome

MedGenome's recent paper "A cancer vaccine approach for personalized treatment of Lynch Syndrome" is published in Scientific Reports

FOSTER CITY, CALIFORNIA, UNITED STATES, August 21, 2018 /EINPresswire.com/ -- The published study examines the feasibility of treating Lynch syndrome using a personalized cancer vaccine approach by identifying potential immunogenic tumor specific alterations.

Lynch syndrome is a hereditary cancer arising from loss of function mutations in DNA mismatch repair genes, such as MLH1, MSH2, MSH3, MSH6, PMS2, and EPCAM. "Over 1 million Americans are affected by Lynch syndrome according to the Cancer Moonshot Blue Ribbon Panel, wherein only 5% are aware of this" said Prof Henry T. Lynch whose groundbreaking research in 1960s led to the discovery of cancer family syndrome or hereditary nonpolyposis colorectal cancer (HNPCC) also referred to as Lynch syndrome. He also added "Therein, many of these patients are not being advised about its importance nor do they have benefit of colonoscopy and, when indicated, prophylactic colectomy, given the presence of cancer as detected by colonoscopy. And those mismatch repair mutation positive can benefit from prophylactic colectomy and, for women, prophylactic hysterectomy and bilateral salpingo-oophorectomy. I think this clearly enunciates the value, in my opinion, of the mutation that you so meticulously have evaluated"

The MedGenome study reports a large number of potential immunogenic peptides from a Lynch syndrome-affected individual who has progressed to develop colon cancer using a proprietary cancer vaccine discovery platform OncoPeptVAC that the company has built. The immunogenicity of several peptides derived from somatic mutations in AXIN2, PIGO and MSH6 was validated using T cells from affected individuals, as well as HLA-matched healthy donors. Additionally, the study also analyzed the tumor microenvironment using a transcriptome-based tumor microenvironment analysis platform OncoPeptTUME, uncovering high infiltration of CD8+ T cells that lack expression of markers of activated phenotype. The potential mechanism of immune suppression, the study suggests may arise as a result of high T-regulatory cell (Treg) and myeloid-derived suppressor cell (MDSC) infiltration.

"Given that Lynch syndrome has limited treatment options, this study provides a basis for considering a cancer vaccine approach that could be used either as monotherapy or in combination with established immuno-oncology or chemotherapy drugs", added Dr. Amit Chaudhuri, VP R&D, MedGenome and a Senior author of this study

ABOUT MEDGENOME:

MedGenome Inc. is a global leader in genomics research and a superior partner to pharma/biotech companies and academic research institutions conducting complex disease biomarker-identification projects.

We have unique molecular-level insights into populations that suffer from inherited diseases at twice the rate of people in the United States and Europe thanks to our leadership in genomics-based diagnostics and research in India. About 5,000 isolated population groups there feature extreme homogeneity or similarity within the group, yet significant heterogeneity, or differentiation between them. These groups are ideal for large-scale genetic-research studies for biomarker discovery. Our global footprint includes laboratories in the United States, Singapore and India.

Our over 400 employees and expert scientists use industry-leading tools and solutions, bioinformatics and big-data analytics to unlock rich genomic insights into rare and complex diseases including cancer, cardiovascular diseases, diabetes, metabolic diseases, ophthalmological disorders, neurological diseases and rare inherited disorders. Our headquarters is in Foster City, California.

Hiranjith GH
MedGenome
8173071531
email us here
