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Nutrigenomics: Food is your Medicine

Our genomes and our genetic polymorphisms are the essence of human beings. Health and disease genes are responsible for our inherited disease traits. Many of our genes are able to be modified; most are not. Non-modifiable genes, such as our age, sex, family history may predispose us to disease; in the future might we be able to change these or mitigate by diet. In the future certain alleles in varieties of crops in regular foods, or in genetically modified foods may be engineered to yield gene modifying effects to yield molecular cures for diabetes, cancer, heart disease, and hundreds of other maladies. Foods might not just be measured by bushels per acre; but maybe by benefits to all of humanity by easing our global burden of disease. The science of nutrigenomics provides a molecular understanding of how common dietary chemicals in our foods affect your health by altering your individual gene expression profile. Whether or not you may be beneficially impacted by chocolate, red wine, vitamin d receptor, exercise, salt, broccoli, anti-oxidants, omega-3 oils, omega-6 oils, soluble or insoluble dietary fiber or a host of thousands of other chemicals will be decided by your unique individual profile and your lifestyle choices. By your food choices, you may be able to adjust your genome or modify your chosen lifestyle.

Biography

Charles Muscoplat completed his PhD, in 1974 from University of Minnesota with a major in Immunology, and completed postdoctoral studies at the Memorial Sloan-Kettering Cancer Center in New York City. Dr. Muscoplat received a B.A. in 1970 majoring in Chemistry. Dr. Muscoplat was a faculty member at the University of Minnesota from 1976 until 1981. From 1981 until 1999 he served as the Vice President for Medical Affairs at MGI Pharma, Inc., where he lead the research and development team gaining 2 FDA approvals of Salagen™ (treatment of xerostomia and Sicca Syndrome). From 1999 until 2006 he was Vice President and Dean of the College of Agricultural, Food and Environmental Sciences at the University of Minnesota. He currently holds a McKnight Presidential Leadership Professor chair. He is Professor of Food Science and Nutrition and also is an Adjunct Professor of Medicine in the Medical School. Dr. Muscoplat is now conducts clinical research using transdermal vitamin d in Cystic Fibrosis patients.

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