

# NUTRIGENOMICS: WHAT IS IT AND HOW IT CAN HELP YOU

One of the emerging areas, born after the human genome project, was **Nutritional Genomics**. This field study the nutrients-genes interactions on health and gene expression. It tell us how gene variants alter our biochemical pathways and influence the way nutrients interact with genes, enhancing or affecting our health.

Genes encode about 1/3 of the enzymes required to run your biochemical pathways and also require cofactors to function optimally. Enzymes and cofactors take substance A and turn it into substance B. Genetic variants may cause less than optimal conversion of substance A to substance B. Lack of cofactors, vitamins and minerals, may block A to B conversion.

For example, if you happen to carry the gene MCM6 (C, C)genotype, you are more likely lactose intolerant, and your body can not breakdown lactose in its components. An enzyme called lactase is needed to breakdown lactose. Because for the (C, C) genotype lactose is not digested normally and gets fermented in the intestines, you may show significantly more gastrointestinal symptoms such as gas, bloating, upset stomach, diarrhea than those with (C, T) or (T, T) genotype. Depending on your genotype, you may reduce your symptoms by reducing or adopting a lactose-free diet for some time and monitor. Not all lactose products contain the same amount of lactose, and your organism is probably able to process some of them.

Knowing which genes you carry will empower you to make the appropriate dietary changes to tailor your diet and lifestyle based on your genes.