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NUTRITION AND GENETICS

NUTRITION
It's written in
your genes

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NUTRITION + GENETICS

It is the era of genetics applied to nutrition.

Each one of us is unique and that is due to our genes. The differences between individuals are easily seen: eye colour, height, hair type etc, but we are equally different inside as well as out – e.g. individual differences in the metabolism of nutrients or the elimination of toxins which affect daily nutritional requirements and limits. In each gene there are sites of variation (e.g. SNPs – single nucleotide polymorphism) and it is the effects of all these variations that together define our individuality.

By a better understanding of the effects of our individual genetics on our nutrition we can begin to having a better control on our lifestyles to improve wellbeing.

NUTRIGENE

Nutrigene is a panel of 22 genes. With a simple buccal swab sample (non-invasive) it is possible to better understand your daily requirements and limits for vitamins, minerals, saturated fats, carbohydrates, etc. A personalised diet for you – deciding, according to your genotype, the quantity and quality of your daily nutrition, indicating the minimum and maximum quantities required for optimum benefit. Each part of the nutritional advice based on your genetics is contained in the Personal NutriGene Report.

GENE	CONTEXT
5HTT(SLC6A4)	Serotonin transporter (stress related)
ACE	Salt sensitivity / refined carbohydrates
ADH1C	Alcohol metabolism
APOC3	Saturated fats and MUFA
CYP1A2*1F	Grilled meat / caffeine consumption
GSTM1	Elimination of toxins/cruciferous vegetable
IL6	Inflammation / omega-3
LPL	Saturated fat metabolism
MTHFR	Folic acid metabolism / homocysteine
PPARG	Refined carbohydrates & physical activity
SOD2	Oxidative stress
TNF	Inflammation / Nickel sensitivity
VDR	Vitamin D / calcium / physical activity
LCT	Lactose intolerance
DQ2/8 (6 genes)	Celiac disease (gluten)

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NICKEL LACTOSE GLUTEN

NICKEL

Nickel allergy is one of the most common contact allergies and is increasing in prevalence, especially in Western countries. The causes can include not just external nickel contact but also excessive consumption of foods that contain high amounts. There are many genes involved, genes that affect skin structure, inflammation, immune response, etc. Genetic variations in some of these genes have been identified which can influence a person's risk for developing nickel allergy. Genotyping these genes will not diagnose the presence of allergy but will indicate individual predisposition which can be useful for prevention.

LACTOSE

"Lactose Intolerance" is due to poor digestion of this milk sugar which is then fermented by gut bacteria, producing gas and bloating which is responsible for the symptoms. It is due to the very low levels after childhood of the enzyme lactase. Recently it has been shown that a SNP, C/T at position -13910 is responsible – carriers of 2 copies of C will be lactose intolerant while those with one or two copies of T will retain the production of the enzyme throughout adulthood. The genetic test is a simple and non-invasive way to determine whether or not an individual needs to control lactose consumption.

GLUTEN (6 genes)

In order to develop Celiac disease the presence of certain gene variants are required, these are the DQ2 and DQ8 genes of the HLA system, without either DQ2 or DQ8 it is almost certain that celiac disease will NOT develop or is not responsible for any symptoms in the patient. In patients who do possess DQ2 or DQ8, there is a raised risk of Celiac disease but the genetic test itself is not a diagnosis. Since early celiac disease has few symptoms and is very difficult to detect, the genetic test can help with early identification where present, reducing long term collateral effects of the disease.

NUTRIGENE & OBESITY

How many times have you tried to go on a diet but then stopped after a few weeks? It's very common and one of the reasons could be in your genes. You are unique compared to everyone else, it's not surprising that the same diet does not work for everyone.

Nutrigene-Obesity is a panel of 9 genes that have been chosen because many repeated scientific studies have demonstrated that there are various interactions between these genes and the environment which affect assimilation and metabolism of fats & carbohydrates and modify the effect of different types of physical activity on muscle and fat tissue.

The genetic results will help the nutritionist to design a diet and exercise profile which will be more personal to you and your genes in order to maximise the chances of successful weight loss. Together with the Nutrigene panel genetics can help you to lose weight and, importantly, maintain the long term weight loss