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optimal health for life

Welcome

Example

to your APOE, MTHFR, COMT & TNFA report

Date of Birth: 01 Jan 2001

Date Reported: 26 Nov 2020

Sample Number: 12345678

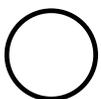
Referring Practitioner: Private

Introduction

From your buccal swab sample we have used a process called the Polymerase Chain Reaction (PCR), which copies the DNA of your genes many times over so that we can generate sufficient quantities to analyse your genetic material. We then identify unique DNA sequences in some of your genes. Certain changes (polymorphisms) in these genes have been studied in detail, with evidence that correlates these polymorphisms with an individual's risk of developing certain chronic disease conditions or altered metabolic processes. Having identified the presence or absence of these polymorphisms, we are able to qualitatively assess particular areas of health risk related to the specific genes. To make a holistic assessment of health risks, environmental factors (diet and lifestyle) need to be considered in conjunction with the accompanying genetic profile.

How to read your results

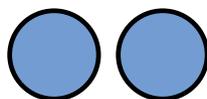
You will find your genetic results in the following pages. On the left side you will see the gene name and description. On the right side you will find your specific result and an explanation of the results, associated risks, and diet and lifestyle recommendations. The impact can be identified by the following:



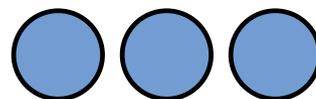
No Impact



Low Impact



Moderate Impact



High Impact



Beneficial Impact

APOE E2/E3/E4

Apolipoprotein E has a multi-functional role in lipoprotein metabolism and is essential for the normal catabolism of triglyceride-rich lipoprotein constituents. Two SNPs result in three allelic isoforms, affecting the protein conformation and thus the receptor binding activity and lipoprotein preference of the APOE protein.

YOUR RESULT: E3/E2

In general, E2 carriers have lower total cholesterol levels. There is some suggestion that the APOE E2 allele may have a slight protective effect against CVD, however, despite lower cholesterol levels, E2 carriers are not immune to dyslipidaemia and raised triglycerides. E2 carriers appear to respond less to dietary intervention, but appear to be more responsive to statin therapy.

MTHFR 677 C>T

Methylenetetrahydrofolate Reductase is a key enzyme in the folate metabolism pathway – directing folate from the diet either to DNA synthesis or homocysteine remethylation.

YOUR RESULT: CT

The T allele lowers activity of the MTHFR enzyme, which results in an increase in homocysteine levels, a decrease in DNA methylation and thus an increase in DNA adducts.

T allele carriers have increased folate, vitamin B2, B6 & B12 requirements. – Enzyme function is only 70% of optimal in CT individuals. In addition to folate-rich foods, a supplement may be recommended.

MTHFR 1298 A>C

Methylenetetrahydrofolate Reductase is a key enzyme in the folate metabolism pathway – directing folate from the diet either to DNA synthesis or homocysteine remethylation.

YOUR RESULT: AA

No genetic variation was detected at the 1298 A>C locus.

COMT 472 G>A

Soluble catechol-O-methyltransferase (S-COMT) helps control the levels of certain hormones and is involved in the inactivation of the catecholamine neurotransmitters (dopamine, epinephrine, and norepinephrine). The enzyme introduces a methyl group to the catecholamine, which is donated by S-adenosyl methionine (SAM). Any compound having a catechol structure, like catecholestrogens and catechol-containing flavonoids, are substrates of COMT.

YOUR RESULT: AA

The A allele is associated with a 3-4 fold reduction in the methylation activity of the COMT enzyme and is associated with increased risk for breast cancer. Key interventions for beneficial modulation of oestrogen metabolism can be accomplished by increasing insoluble fibre, managing the quality of dietary fat intake, losing weight, and increasing exercise. In addition, ensure sufficient anti-oxidant and magnesium intake. Dietary components that inhibit COMT activity include quercetin and tea catechins.

TNF-A -308 G>A

Tumour necrosis factor- α (TNF α), a proinflammatory cytokine secreted by both macrophages and adipocytes has been shown to alter whole body glucose homeostasis, and has been implicated in the development of obesity, obesity-related insulin resistance and dyslipidaemia.

YOUR RESULT: **GG**

No variant was detected at the 308 G>A locus.

