



# GENETIC TESTING





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### Your Dashboard

#### 1. Digestion

- FUT2 - Gastrointestinal infections
- HLA-DQA1 - Gluten intolerance
- LCT - Lactose intolerance

#### 2. Metabolism

- FTO - Obesity & T2D
- LEPR - Appetite / Satiety
- TCF7L2 - Insulin Secretion

#### 3. Stress

- ACE - Blood Pressure & Electrolytes
- COMT - Anxiety, Pain, Stress
- FKBP5 - Cortisol Regulation

#### 4. Immunity

- DAO - Histamine
- HNET - Allergies
- TNF- $\alpha$  - Inflammation

#### 5. Nutrients

- BCMO - Vitamin A
- MTHFR - Vitamin B9
- FUT2 - Vitamin B12

#### 5. Nutrients

- SLC23A1 - Vitamin C
- GC - Vitamin D
- VDR - Vitamin D

#### 6. Stimulants

- ADORA2A - Adenosine detoxification
- ADH1B - Alcohol sensitivity
- CYP1A2 - Caffeine metabolism

#### 7. Exercise

- ACE - Endurance Vs Power
- COL1A1 - Tendon, ligament injury risk
- GSTM1 - Recovery

#### 8. Sleep

- CLOCK - Early bird / night owl
- MTRR1B - Melatonin receptivity
- PER - Circadian rhythms

GENE DESCRIPTION	YOUR RESULT	IMPACT & ADVICE
<b>COMT - Stress and pain resilience</b> Responsible for breaking down and inactivating many compounds including dopamine and adrenaline. Adrenaline is responsible for increasing our heart rate and blood pressure in response to stress. Variants in COMT lead to slower breakdown of compounds causing a prolonged stress response, irritability, anxiety, heightened pain sensitivity and mood disorders.	GA	'Worrier' type. (Decreased genetic stress resilience). Slower breakdown of neurotransmitters and more susceptible to irritability, anxiety, pain, mood disorders and disturbed sleep. See pg.10 of your NIG for tips on effective stress management. Check pg.18 of this report to see whether you should avoid caffeine in order to reduce anxiety, achieve better sleep and improve stress resilience.
<b>FKBP5 - Cortisol regulation</b> An important stress-regulating gene responsible for modulating cortisol levels by signaling for the lowering of cortisol after a stress response. Variants in FKBP5 are associated with prolonged and increased stress response due to impaired lowering of cortisol levels after a stressful event. Carriers of the variant are more susceptible to stress-related disorders such as depression, anxiety and post-traumatic stress disorder (PTSD) in adulthood particularly as a result of childhood trauma.	CC	More likely to recover well from stress, due to healthy cortisol regulation. Prolonged chronic stress or traumatic life events along with diet and lifestyle factors such as obesity, lack of exercise and poor diet can cause decreased stress resilience (pg. 10 NIG) regardless of genotype. Check pg. 18 below to see whether you should avoid caffeine to reduce anxiety and achieve better sleep.
<b>ACE - Blood pressure and electrolyte balance</b> Found mainly in the blood vessels and lungs and plays one of the most important roles in regulating blood pressure and the balance of fluids and salts (electrolytes) in the body. ACE causes the blood vessels to constrict and blood volume to increase leading to high blood pressure (HBP). Variants in ACE are associated with increased risk of high blood pressure which, in combination with prolonged stress, can be detrimental to heart health.	GG	You are likely to have elevated levels of ACE which plays a role in regulating blood pressure. As a result you have a risk of poor blood pressure regulation, potential for migraines and lower resilience during and after a stressful situation or intense exercise. Avoid exercise fasting at maximum heart rate and practice stress management techniques (pg. 10 NIG). Being overweight and/or a diet high in salt and saturated fats have been shown to increase likelihood of elevated blood pressure. Monitor blood pressure regularly.



## Gluten & Gluten Alternatives

Gluten is the main protein found in various grains such as wheat, barley and rye and is known to cause an immune reaction in people with celiac disease. If you are at risk of celiac disease (family history and possess the variant on the HLA-DQA1 gene) and/or experience symptoms such as chronic bowel upsets, joint pain, inflammation and migraines after consuming gluten products you should try avoiding gluten completely to see whether your symptoms improve.

If you are gluten sensitive, you may be able to re-introduce gluten into your diet once your digestive system has healed. See page 3 Gut Healing above.

If you are celiac, you should stay away from gluten for life.

**J GLUTEN FREE:**

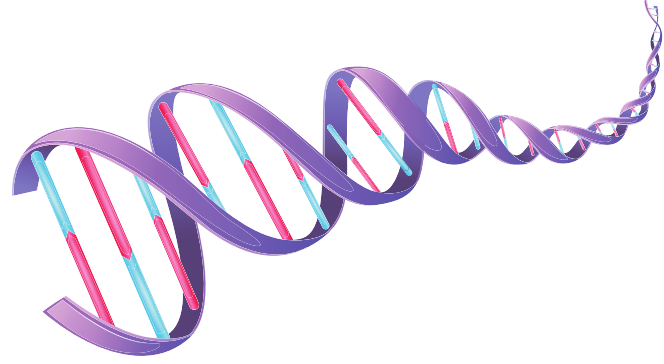
Buckwheat, amaranth, millet, quinoa, rice, oats (must state that they are not produced in a factory that produces gluten goods), fruit and vegetables, beans, seeds, legumes, nuts, potatoes, eggs, dairy, oils and vinegar, fish, lean red meat, chicken and seafood, Rum, tequila and wine are generally gluten free, as are some whiskeys



Most gluten-free grains are also available as flour and are great for baking!

**X CONTAINS GLUTEN:**

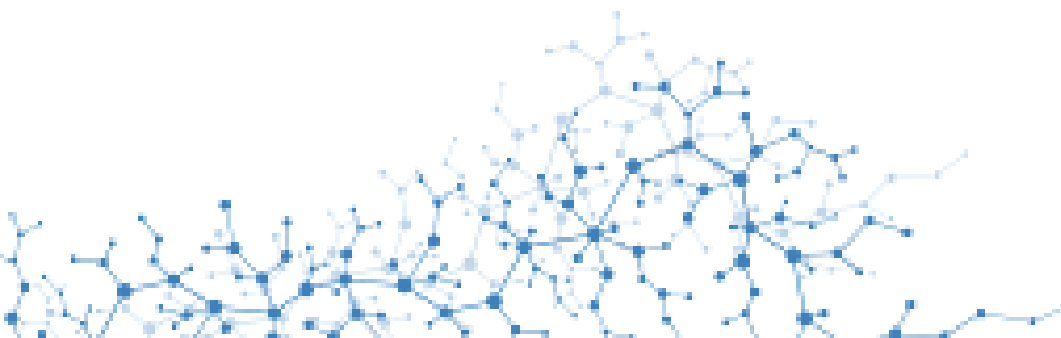
Barley, bulgur, oats (processed in factories that produce gluten-containing grains), rye, seitan, couscous, cracked wheat, durum, einkorn, fu (common in Asian foods), gliadin matzo, semolina, spelt, pastas, breads, crackers and many seasonings and spice mixes including soy sauce, MSG, marinades, preservatives and stabilisers. Most beer unless specifically brewed to be gluten free. Some whiskeys

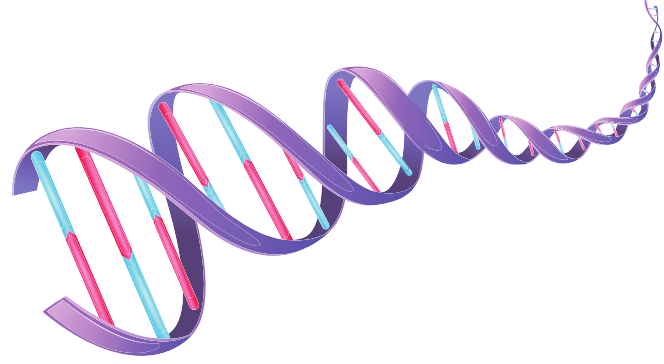


# What is DNA?

**DNA** is your body's instruction manual, controlling every single function from when you were only made up of a few cells, until now. It looks like a twisted ladder, made up of two halves - you inherit one half from your mother, the other from your father. This combination is what makes you, you.

Each 'rung' of the ladder contains two letters of DNA code called nucleotides which bond together in pairs: **A(adenine)** and **T(thymine)** bond together, as do **C (cytosine)** and **G (guanine)**. **Genes** are portions of the ladder of which use combinations of the nucleotide code to perform specific functions.



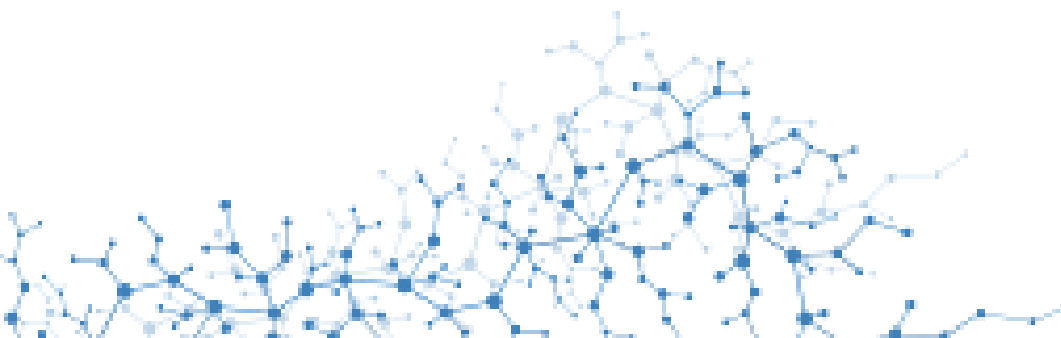


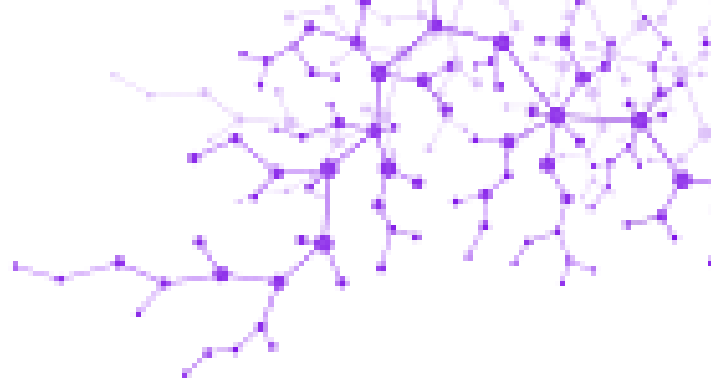
## WHAT ARE WE TESTING?

You have an estimated 20- 25,000 different genes. Coding for the colour of your eyes to our immune system, to whether you like the taste of coriander or not.

We are testing around 25 of the most useful genes in relation to our health and wellbeing. We can then use this information to help shape your nutrition, your lifestyle and your supplements to optimise your health outcomes. Focusing on supporting areas where you may have a genetic weakness, and capitalising on the areas where you are strong.

This is truly personalised nutrition and lifestyle.








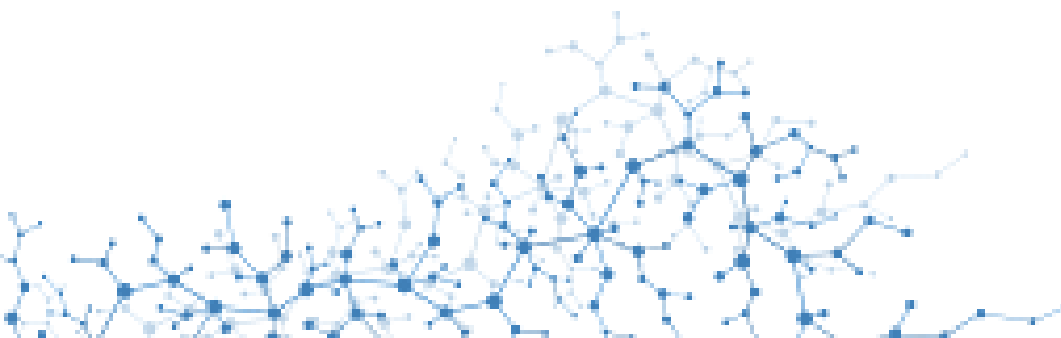
# RESULTS

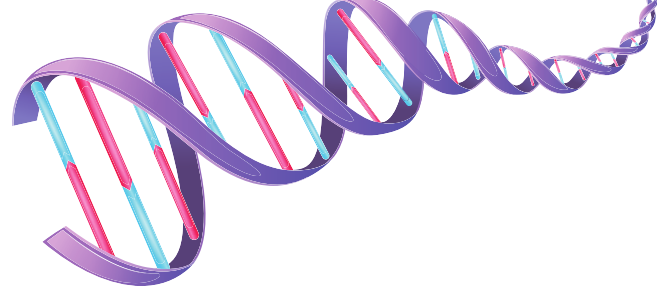
Your results are shown by a combination of the letters ATCG along with a traffic light system to indicate if your result is good, neutral, or bad.

Genetic variants are known as SNP's (single nucleotide polymorphism). Once we can see which SNP you have - we all have some - we can start to see a pattern and help you make adjustments to support.

-  A green result indicates either no variants or a positive genetic variant
-  An amber result usually indicates one genetic variant present and a mildly negative impact
-  A red result indicates a negative impact either due to both variants being present or a "wild type" result that is not as beneficial as the variant

GENE DESCRIPTION	RESULT	IMPACT & ADVICE
<b>GENE CODE - Gene Effect</b> Explanation of the role the gene plays and what effect genetic variants might have, symptoms etc.	<b>GG</b>	An explanation of your result, how you might be affected along with specific diet and lifestyle advice
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# THE 8 ELEMENTS OF HEALTH

## DIGESTION



Find out if you have lactose or gluten digestion issues.

## METABOLISM



Understand how your genes affect your hunger and satiety by testing FTO and LEPR

## SLEEP



We can test genes such as the CLOCK gene to find out if you are an early bird or night owl? Then learn how to make changes to help you sleep better.

## STRESS



Work out how well you regulate stress hormones such as cortisol, and how this might affect your blood pressure. By testing ACE and FKBP5

## EXERCISE



From testing your COL1A1 and GSTM1 genes to find out how well you recover from exercise. Then make adjustments to your training and supplements to improve performance.

## IMMUNITY



Are you more prone to allergic reactions? We can test your DAO and HNMT to find out what your genetic disposition is.

## STIMULANTS

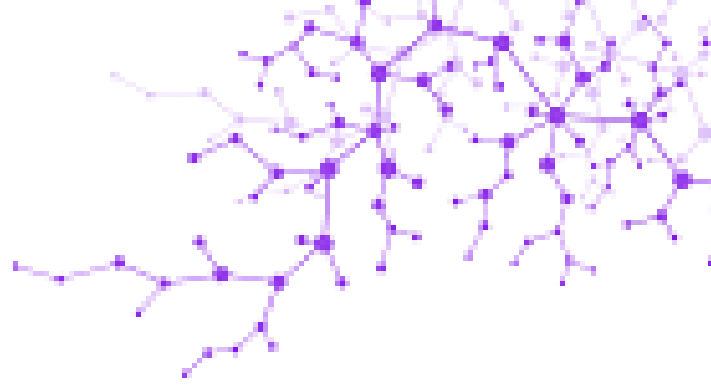


Find out how well you tolerate caffeine and alcohol by testing genes ADH1B CYP1A2.

## NUTRIENTS



Understand how well your body processes nutrients from your food. This will work out whether you need to adjust your diet or add supplementation



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- MTHFR - Vitamin B9
- FUT2 - Vitamin B12

## 5. Nutrients



- SLC23A1 - Vitamin C
- GC - Vitamin D
- VDR - Vitamin D

## 5. Nutrients



- FTO - Protein
- TCF7L2 - Carbohydrates
- NOS3 - Omega-3

## 6. Stimulants



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## 7. Exercise

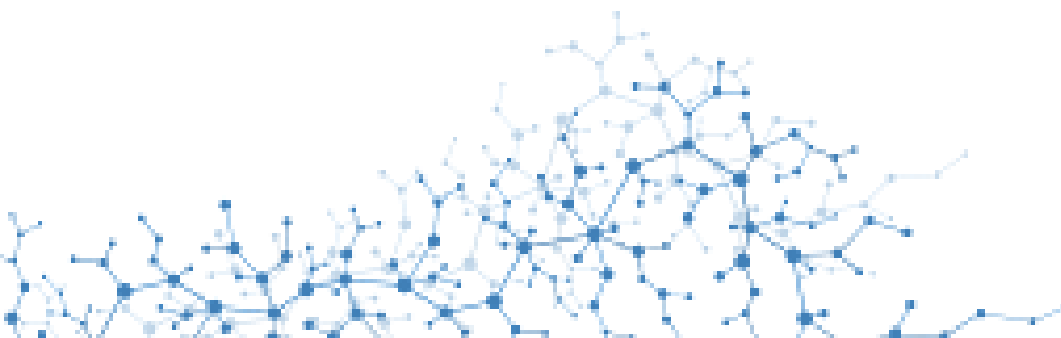


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# WHAT CAN YOU LEARN FROM YOUR GENES?

*some examples*

**HDL-DQA1** - Gluten is the main protein found in various grains such as wheat, barley and rye and is known to cause an immune reaction in people with coeliac disease. A variant on the HLA-DQA1 gene will mean you have a familial predisposition to either coeliac or gluten intolerance.

**LCT**- Lactose is the natural sugar found in dairy products. After the age of 5 over 65% of the population have a reduced ability to digest lactose. Find out whether lactose is driving your digestive issues.

**COL1A1** - What is your genetic risk of tendon and ligament injury? Collagen is the key ingredient in healthy tendons and joints. Reduced ability to synthesise will increase injury risk.

**LEPR** - Helps to regulate appetite and satiety, telling your body when you are full. It also contributes to energy expenditure. Discover if you have a tendency to overeat and naturally conserve energy.





## Your questions answered

Once you have received your results I am sure you will have lots of questions - thats why the support of a Nutritional Therapist is so important.

### Your personalised report

We will send you the link to access your report as soon as it is available - it is hosted on YourGutMap and you can access this at any time in the future - you do not need to remain a client to see your information.

Once your results are available we will send you a link to book your interpretation call.

### Decoding the report

During your interpretation call I will share my thoughts on the results along with answering any questions you may have.

We will always be lead by your health goals and current symptoms.

We will create a personalised protocol that may included additional supplements and lifestyle recommendations.

### Further consultations

Feel that you need a bit of extra support, or you have a complicated medical history. We can arrange for additional calls, or why not book a package that includes full support and testing?

**Email: [wendy@hillstart.me.uk](mailto:wendy@hillstart.me.uk)**

**Call: 07726 378500**

**You can book a free call and I will answer any questions you have about the testing.**



**HILLStart**  
NUTRITION, HEALTH & WELLNESS