



THE DNA DIET

Could hacking your genes equal your healthiest body?

WH explores the science of nutrigenomics

By Tara Ali

If there's one thing we know about diet and wellness in 2017, it's that no one size fits all. But with all the options on the table (veganism, spiralling, Whole30...) it's easy to get confused about what's *actually* the best way to eat. So, what if there was a meal plan designed specifically for your own body's needs? Welcome to the new world of nutrigenomics.

What is it? In short, the science of genetic testing for variants that affect how you respond to certain foods and nutrients. "Testing can tell you the best and worst foods for your body: if you're allergic to lactose, or if you are good at metabolising carbs or fat – or not," says molecular geneticist Dr Denise Furness, who recently spoke about nutrigenomics at the BioCeuticals Research Symposium in Sydney. "You can then tweak your diet for better results and lower disease risk."

The science may be young but it's compelling – a 2014 study by the European Society of Human Genetics found subjects who dieted using recommendations based on their genes lost 33 per cent more weight than those who didn't. Intrigued yet?

DNA calling

You'd expect this to be the type of testing elite athletes would eagerly embrace. But Furness has also seen an uptick in the numbers of regular, health-conscious folk signing up to be screened. "People want to know what lies in their genes, because the risk for chronic health conditions is rising and they want to be as healthy as possible," she says. DNA testing can already determine what kind of exercise best suits your body, so food analysis is the next logical step.

How it works: you scrape the inside of your mouth with a cotton swab, send it to a lab and, a couple of weeks later, you're reading a DNA report detailing your optimal diet. The kind of stuff it tells you? Plenty! Like whether your body breaks down starches and carbohydrates well or not, which could lead to an increased risk of diabetes, or if you have the gene variant that makes your body metabolise caffeine more slowly than other people. It can also reveal if a vego diet would suit you (or if you'd struggle without animal fats because you have the FUT2 gene that means you don't absorb vitamin B₁₂ well) or if you need extra folate or less salt in your diet. In a nutshell, fascinating stuff.

Play it safe

The flipside: one criticism of this kind of testing is that it could lead to unnecessary further investigations, or make you stress about issues that

aren't a big concern. You could also be sent reams of test results that are hard to interpret, depending on the lab you use (there are lots online).

Furness stresses a couple of points here. Firstly, use an Australian-based gene testing distributor because they have to be regulated by the Therapeutic Goods Administration. Secondly, avoid the direct-to-consumer results method. "See a practitioner who is educated in both genetics and nutrition to help you interpret the results and give you a plan of what to do with them," she says. "Australian testing companies shouldn't let a practitioner use their lab without going through further training in nutrigenomics. So, you're looking at GPs, qualified naturopaths or dietitians."

Your nutrition roadmap should always be looked at by someone who knows how to interpret the results because it's not as simple as 'You have gene XX, therefore eat more lean meat and vegetables and drink less coffee.' "Your genes are not diagnostic and you need to factor in lifestyle," explains Furness.

So, is testing for you? Well, if your current diet works, you may not want to fork out the dollars. But if you're really curious or after results around a specific health concern (eg, losing 10 kilos or getting pregnant), it could be worth investigating. The answers that you're looking for could lie hidden in your DNA. **WH**

"I had my genes tested"

Alex Davies, *WH* Features Editor

LAB USED: Research Nutrition, the Australian distributor for testing company DNALife.

COST: \$529 for four reports on health, diet, sport and oestrogen; \$369 for two.

After putting my hand up to get tested, I suddenly felt unsure. What if I found out something bad? But, curious (and with a deadline for this piece), I mailed my saliva swab to the lab. Three weeks later, I'm on the phone with Dr Denise Furness to talk through my results. She starts by putting my mind at rest: "The purpose isn't to put fear in people, but to educate and empower. To help them know what their body's good at, and how they can compensate for things it's not so good at."

As she decodes my four reports, I learn my genes say I'm a good sleeper (I am) and I have issues with appetite control (true story – chocolate is a serious vice). They say I metabolise carbs better than fats, which again I recognise. Avo, salmon et al are fine, but anything too rich leaves my stomach unhappy.

Meanwhile, I have "really good" results for a gene connected to folate processing (thanks Mum and Dad), but my variation of the COMT gene (which "breaks down neurotransmitters like stress hormones") is slow. So when I get stressed, my body doesn't deal with it as quickly as others. I admit I get worked up easily, so Furness recommends I aim for plenty of B vitamins (they help with the breakdown process) and consider a quality magnesium supplement for its calming influence.

In my oestrogen report, she flags the gene FACTOR V. It's associated with blood clotting and my variation has a 'moderate' risk. "If you're on the contraceptive pill, which has some risk of blood clots, chat to your doctor to weigh up the pros and cons," she advises.

Finally, my sport report indicates I have a slightly high injury risk. Don't freak out, says Furness – the running I do is fine, but just make sure to factor in active recovery and build distance gradually.

My verdict? I do feel empowered, and pleased that lifestyle tweaks can compensate for not-ideal gene variations. DNA testing, I'm sold.