

DNA Fit gene test to assess athletic prowess

A new genetic test to assist individuals in customising training efforts to not only achieve faster and better results, but to sustain them as well, has been launched. Known as DNA Fit and developed by local molecular technology firm DNAlysis Biotechnology, the test will analyse a number of genes that determine athletic prowess, including power and endurance, recovery and risk for soft tissue injury.

"Every individual responds to some form of nutrition and exercise. However, we all respond differently and what works for one person won't necessarily work for another. For example, some rapidly attain fitness in a few cardio sessions, burn fat and improve cardiorespiratory levels while others, following the same cardio routine, are still huffing and puffing weeks and months later with little to show for it," says Ian Craig, an exercise physiologist, nutritional therapist and coach who has helped DNAlysis develop and pilot the DNA Fit test.

According to Craig, the challenge for coaches and sports science practitioners is that, even though they may be well acquainted with the scientific theories around fitness, they don't know precisely how to apply them to suit individual needs. The DNA Fit test is designed to overcome this limitation, removing guesswork and limiting the need for trial and error approaches.

The DNA Fit test identifies gene variations in three categories that relate to sporting performance, namely power and endurance, recovery and soft tissue injury. The resulting profile, which can be analysed and interpreted by trained practitioners, will allow the development of a genetically personalised and effective training schedule.

"The genes we have are a big part of the health and fitness equation. However, it's how we exercise that affects the way our genes are expressed, or how they switch on and off. Knowing our genetic predisposition makes a significant difference - it allows us to adapt, compensating for weaknesses and exploiting strengths," Craig explains.

Fitness impact

The DNA Fit test results indicate how the main scientific training theories - such as progressive overload, which increments the amount or intensity of exercise over a given period; and super compensation, which determines training-recovery ratios - can be effectively applied to suit the needs of the individual.

The right kind of sports training could see the individual achieve greater physical fitness, better performance and even weight goals faster. To take cycling as an example, an endurance athlete may benefit from a steady 300km a week, while a power athlete may get more from 100km of high intensity weekly cycling.

Suitable recovery after exercise is vital to improve fitness. "Your genetic profile will provide a clear indication of how your

body deals with the inflammation and oxidative stress that occurs during, and after, an exercise bout. Equipped with this information, you can, for example, determine the intensity or volume of training needed to limit oxidative stress, and what length of recovery or nutritional support is needed to deal with inflammation and high oxidation levels," Craig explains.

When it comes to injury, acute and overuse musculoskeletal injuries are key culprits. "The results from this section of the gene test, together with that from the recovery panel, will allow coaches to better determine lag times between heavy sessions, what and how many auxiliary sessions are needed and what pre-habilitation work is needed to prevent injury," says Craig.

How the test works:

Like the DNA Health and DNA Diet tests developed and available from DNALysis Biotechnology, DNA Fit test requires a swab from the inside of your cheek and identifies specific gene variations. The gene variations selected for testing have high scientific credibility and a known 'remedy' or intervention that can assist to mitigate their effects and support desired outcomes.

The resulting gene profile will provide insight into whether you:

- Are more suited to power or endurance sport: Gene variations that code for physiological factors such as circulation, blood pressure control, strength, cardio-pulmonary capacity, muscle fibre type specialisation, muscle metabolism and adaptability to training regimes.
- How quickly you are likely to recover from training sessions and your susceptibility to soft tissue injuries. These genes signal disposition to inflammation and free radical stress within the body as well as the structural integrity of soft tissues in the body.

For more information on DNALysis and its various products, call +27 (0)11 268 0268 or visit www.dnalysis.co.za, facebook.com/dnalysis or twitter.com/dnalysis.

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