



DIO2 SNP Panel

for

Example2 Example1

Date of birth: 01 Jan 2001

Date reported: 20 Feb 2024

Sample number: 12345678-New

Referring practitioner: Private

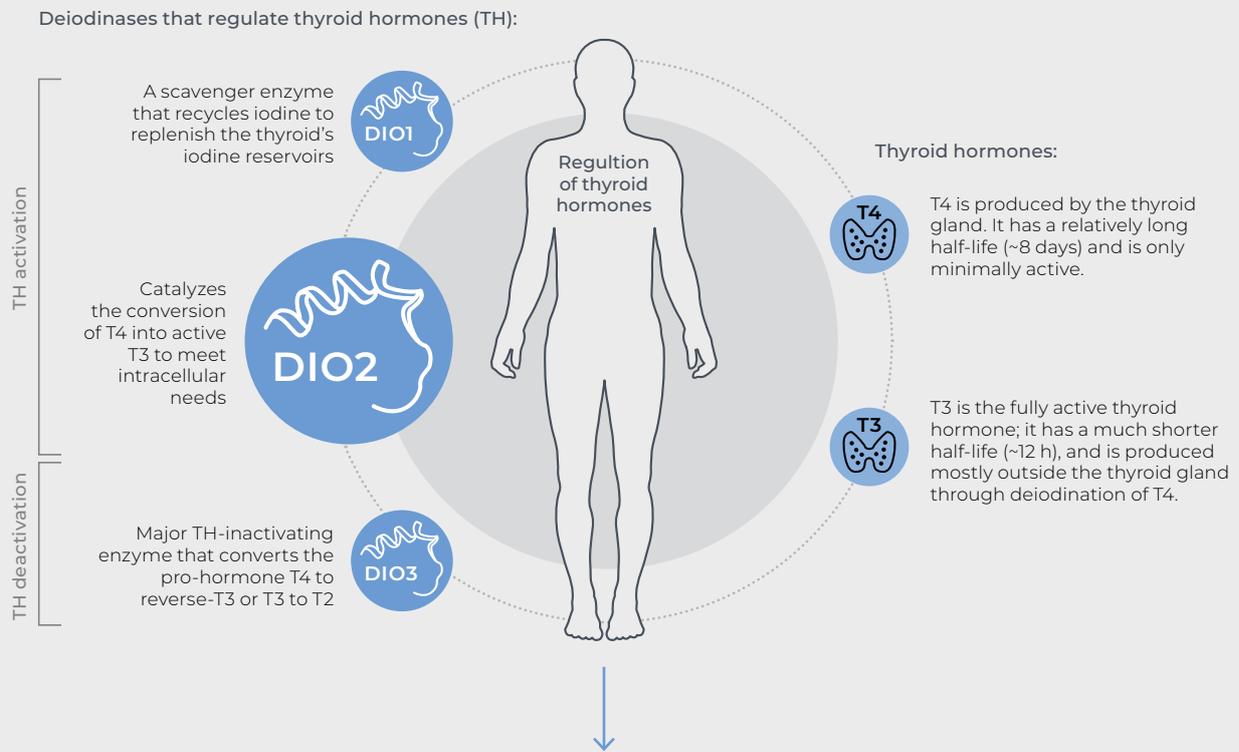
The DIO2 single SNP report gives insights into the activation and deactivation of thyroid hormones

Thyroid Hormone Regulation

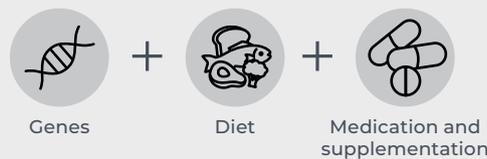
Thyroid hormones (TH) are critical regulatory molecules, synthesized by the thyroid gland. They play a pivotal role in human physiology and development, including fetal and post-natal nervous system development and the maintenance of adult brain function.

There are two major THs, T4 (3,5,3',5'-tetraiodo-L-thyronine) and T3 (3,5,3'-tri-iodo-L-thyronine). T4 is considered a pro-hormone that must be converted to T3 via tissue-level deiodinases (DIOs). Among these DIOs, DIO2 plays a significant role as a determinant of the final concentration of T3. T3 is known to play a crucial role in muscle control, brain function and development, heart and digestive functions.

THYROID HORMONE REGULATION IN THE BODY



Personalised interventions can help improve your overall health performance





Iodothyronine Deiodinase Type II (DIO2)

DIO2 codes for Type II iodothyronine deiodinase (D2) and forms part of a family of three iodothyronine deiodinase enzymes which are responsible for the activation and deactivation of thyroid hormones and for the conversion of thyroxin (T4) to the active or inactive form of triiodothyronine (T3). D2 is the only enzyme able to convert T4 to T3 in the brain and is likely to play a key role in determining the ability of the brain to respond to circulating T4 levels, thus a common variation in D2 activity may represent the best available marker of intracellular T3 levels in the brain.



Your DIO2 results

Genotype result table:

No Impact Low Impact Moderate Impact High Impact

GENE NAME	GENE VARIATION	YOUR RESULT	GENE IMPACT
DIO2	T>C (Thr92Ala)	TC	



Priority level: Moderate

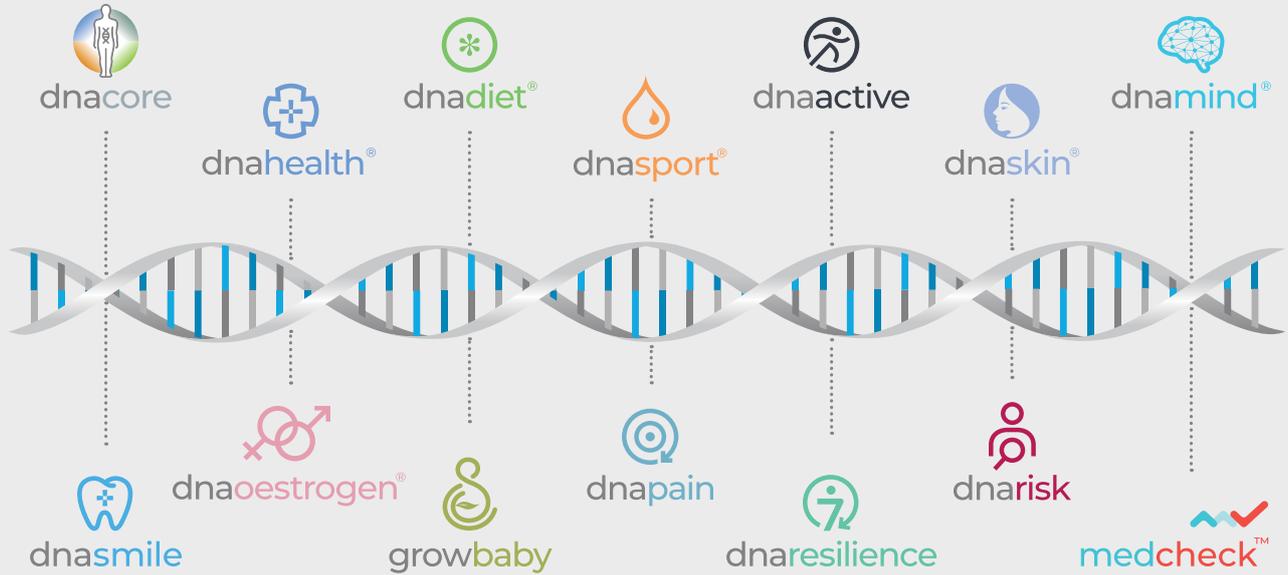
Despite titration of T4 replacement to adequate serum levels of thyroid hormone and normalisation of TSH in patients diagnosed with hypothyroidism, a significant number of patients still report on-going symptoms.

Research suggests that the C allele in the DIO2 gene, as tagged by the SNP rs225014, may predict both poorer psychological well-being on T4 monotherapy and improved response to combination T4/T3 therapy in patients on thyroid hormone replacement therapy.



A lifetime of optimal health awaits you

Your genes do not change, which means our laboratories will only ever need one sample* from you. Throughout your life, as your health goals and priorities change, we can continue to provide valuable health insights from this single sample* to support your unique health journey.



*Requires finger prick blood spot sample collection

Our Commitment

DNAlysis Biotechnology is continuously developing new tests with the highest standards of scientific rigour. Our commitment to ensuring the ethical and appropriate use of genetic tests in practice means that gene variants are only included in panels once there is sound motivation for their clinical utility and their impact on health outcomes.

ADVANCED | **ACTIONABLE** | **APPROPRIATE**
technology | interventions | use in practice

From the laboratories of:

DNALYSIS
Biotechnology

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Risks and Limitations:

DNAlysis Biotechnology has a laboratory with standard and effective procedures in place for handling samples and effective protocols in place to protect against technical and operational problems. However as with all laboratories, laboratory error can occur; examples include, but are not limited to, sample or DNA mislabelling or contamination, failure to obtain an interpretable report, or other operational laboratory errors. Occasionally due to circumstances beyond DNAlysis Biotechnology's control it may not be possible to obtain SNP specific results.