Thrombosis Risk Panel

Factor II and Factor V Leiden

for

Example2 Example1

Date of birth: 01 Jan 2001	Date reported: 12 Apr 2024	Sample number: 12345678-New
Referring practitioner: Private		

The thrombosis panel report aims to assess your risk of abnormal blood clotting.

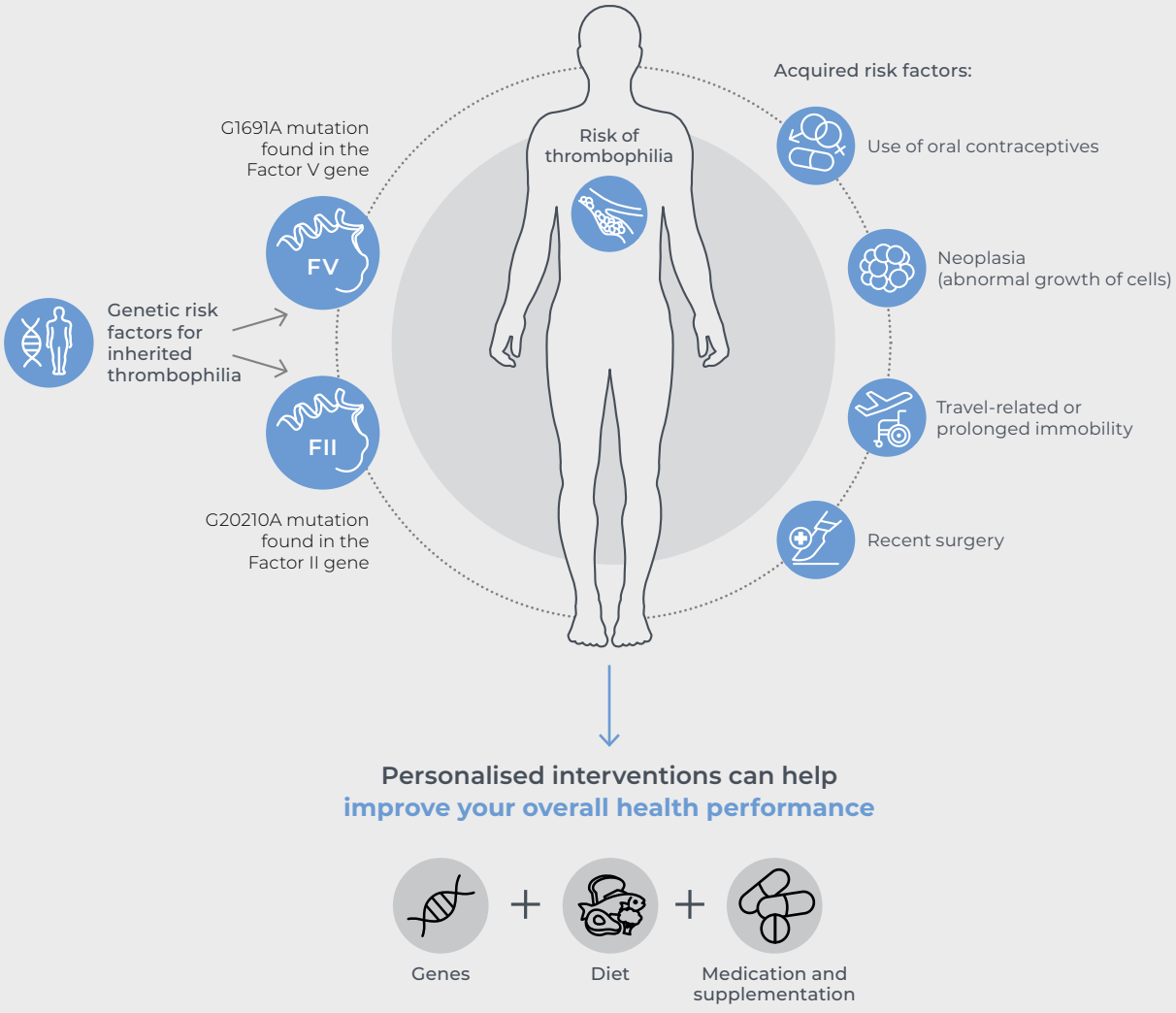
Understanding thrombophilia risk

Thrombophilia is a blood coagulation disorder that increases the risk of developing venous thrombo-embolism (VTE) resulting in deep vein thrombosis (DVT) or pulmonary embolism (PE).

Thrombophilic risk is multifactorial with both genetic and acquired risk factors. Acquired risk factors for VTE include oral contraceptive use, neoplasia, travel-related or prolonged immobility, and recent surgery. The most common genetic risk factor for inherited thrombophilia is the G1691A mutation found in the Factor V gene, followed by the G20210A mutation found in the Factor II gene.

Genetic screening of thrombophilia in at-risk individuals can be useful in tailoring the management of the disorder and improve patient outcomes.

RISK FACTORS FOR THROMBOPHILIA



Factor V G1691A

Factor V functions as a cofactor to allow Factor Xa to activate the enzyme thrombin, and in turn cleaves fibrinogen to form fibrin. This polymerizes to form the dense meshwork that makes up the majority of a clot. Activated protein C (aPC) is a natural anticoagulant that acts to limit the extent of clotting by cleaving and degrading factor V.

The Factor V Leiden G1691A gene mutation abolishes one of the aPC cleavage sites, resulting to continued thrombin production. This increases the risk for venous thromboembolism (VTE). Deep venous thrombosis (DVT) is the most common VTE, with the legs being the most common site however VTE can also occur in other parts of the body including the brain, eyes, liver, and kidneys.

Your Factor V results

Genotype result table:

○ No Impact ● Low Impact ●● Moderate Impact ●●● High Impact

GENE NAME	GENE VARIATION	YOUR RESULT	GENE IMPACT
Factor V	G1691A	GG	○

Priority level: **None**

No variant was detected at the G1691A locus. This genotype is not associated with an increased risk for thrombosis.

NOTE: This test does not include all possible inherent reasons for abnormal clotting. Assess thrombotic risk in conjunction with other genetic and/or circumstantial risk factors such as smoking, obesity, malignancy, prolonged immobilization or surgery.

Factor II 20210 G>A

The Factor II gene encodes the coagulation factor II, or prothrombin, which is a vitamin K–dependent proenzyme that functions in the area of blood coagulation. Factor II is a precursor to thrombin, which converts fibrinogen into fibrin, which in turn strengthens a protective clot.

The Factor II 20210 G>A gene variant results in increased levels of plasma prothrombin and thus an increased risk for thrombosis.

Your Factor II results

Genotype result table:

○ No Impact ● Low Impact ●● Moderate Impact ●●● High Impact

GENE NAME	GENE VARIATION	YOUR RESULT	GENE IMPACT
Factor II	20210 G>A	GA	●●

Priority level: **Moderate**

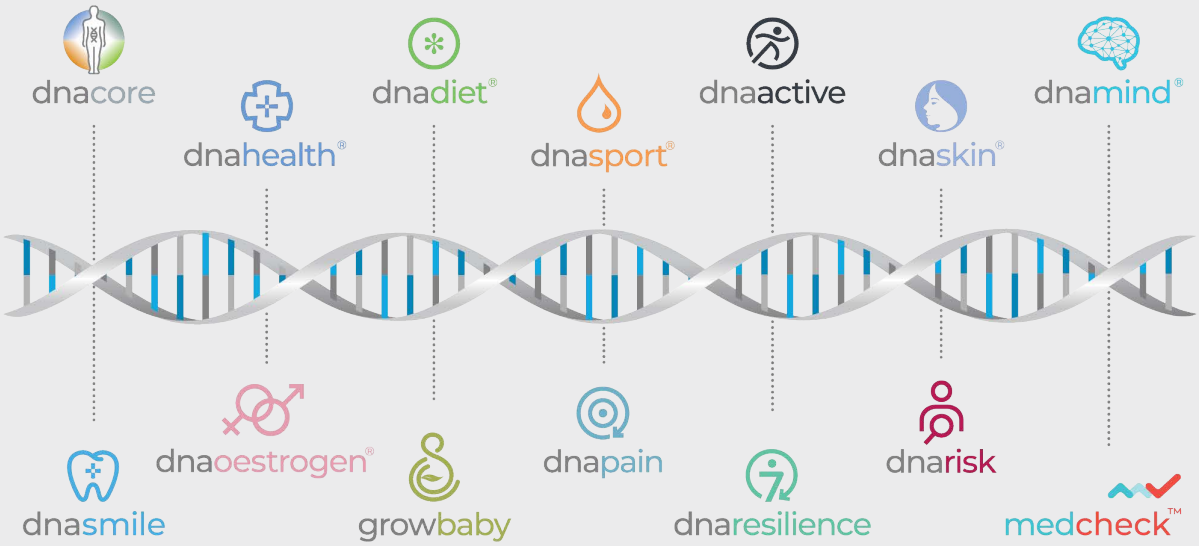
The GA genotype is associated with elevations of plasma prothrombin levels to approximately 30% above normal and there is a 2- to 5-fold increased risk for venous thromboembolism (VTE).
Other factors that can increase the risk of thrombosis, together with the risk genotype include: travel, central venous catheter use, pregnancy, oestrogen-based oral contraceptive use, hormone replacement therapy (HRT), selective oestrogen receptor modulators (SERMs), organ transplantation, injury, age, and surgery.

An individual with both the FV G1691A variant and the FII 20210 G>A variant (compound heterozygote) has an a greater risk of VTE (20-fold) than an individual with a variant in only one factor. This illustrates the multiplicative effect of these two factors on overall thrombotic risk.

NOTE: This test does not include all possible inherent reasons for abnormal clotting. Assess thrombotic risk in conjunction with other genetic and/or circumstantial risk factors such as smoking, obesity, malignancy, prolonged immobilization or surgery.

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 technology | ACTIONABLE interventions | APPROPRIATE use in practice

From the laboratories of:

DNALYSIS Biotechnology

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For more information: 011 268 0268 | admin@dnalysis.co.za | www.dnalysis.co.za

info@dnalife.healthcare | www.dnalife.healthcare

Denmark Office: Nygade 6, 3.sal · 1164 Copenhagen K · Denmark | **T:** +45 33 75 10 00
South Africa Office: North Block · Thrupps Centre · 204 Oxford Rd · Illovo 2196 · South Africa | **T:** +27 (0) 11 268 0268
UK Office: 11 Old Factory Buildings · Battenhurst Road · Stonegate · E. Sussex · TN5 7DU · UK | **T:** +44 (0) 1580 201 687

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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.