

Efficient Thrombophilia Diagnostics from one Source



Your Molecular Genetic Test Systems for Analysis of Common Thrombophilia associated Mutations:

- **ThromboType[®] plus**
- **ThromboType[®]**
- **GenoType MTHFR**
- **FluoroType[®] Factor V**
- **FluoroType[®] Factor II**
- **FluoroType[®] MTHFR C677T**

Your Benefits of Using Thrombophilia Diagnostics from Hain Lifescience

- **Comprehensive Thrombophilia Diagnostics:** We offer a broad range of different test systems to define the individual risk for thrombophilia of a patient.
- **No Limitation:** Genetic detection can also be done under anticoagulation treatment and thus at any point in time.
- **Efficient Processing:** The possibility to combine the test systems with other products from Hain Lifescience enables simultaneous processing of different human genetic parameters. This facilitates optimal integration of the tests into your routine laboratory testing.
- **Assured Diagnostics from one Source:** From isolation to result – Hain Lifescience is your competent partner.
- **CE-labeled:** No need for elaborate validation studies.

Factor V Leiden and Prothrombin Mutation

Factor V Leiden and the prothrombin mutation (G20210A) are among the most important parameters in thrombophilia screening.

In Factor V Leiden (G1691A), a point mutation causes an amino acid exchange (arginin versus glutamine at position 506), thus the result is an increased production of thrombin. The heterozygous Factor V Leiden mutation causes a five- to tenfold increased risk of thrombosis. In the homozygous disease, the risk of thrombosis is increased 100 times.

The second most frequent mutation is the prothrombin G20210A mutation. This point mutation involves the non-coding regulatory area of the Factor II gene (prothrombin).

It is assumed that this change leads to an increased protein synthesis by increasing translational efficiency. In heterozygous carriers, the mutation is associated with a threefold increase in thrombosis risk. Until now, the molecular genetic analysis is the only possibility to detect the prothrombin mutation. Approximately 10-30% of thrombosis patients with a Factor V Leiden mutation also have the prothrombin mutation. Persons with multiple gene defects have a significantly increased risk of thrombosis as compared to persons with only one or no genetic change.

For this reason, it is useful to determine both parameters to assess the risk of thrombosis.

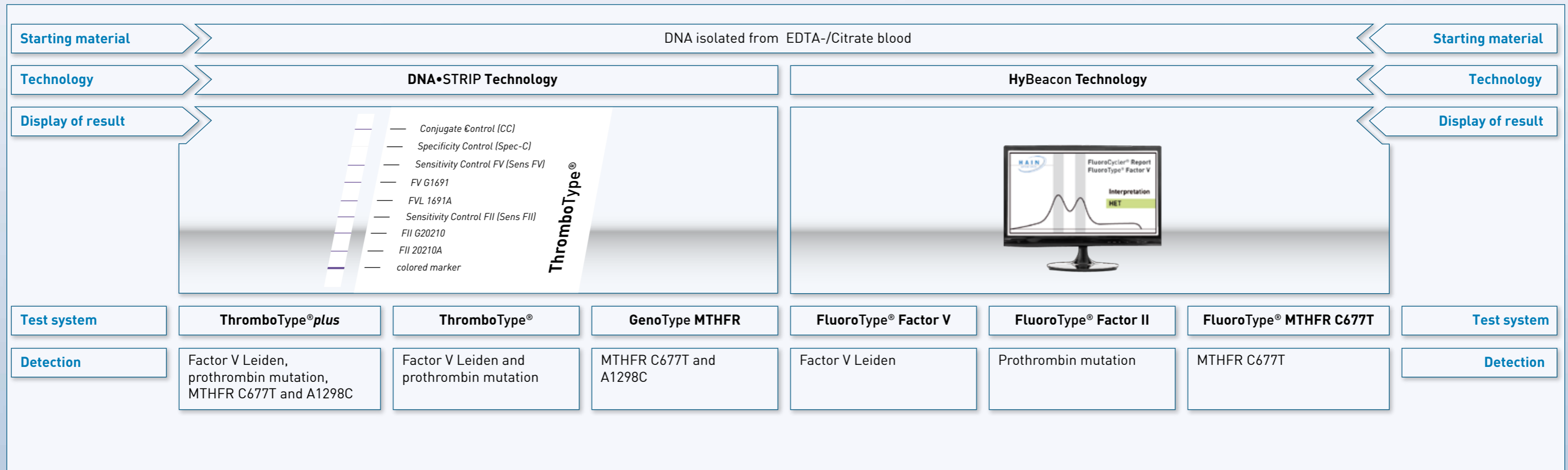
MTHFR Polymorphisms

Homocysteine is another parameter to determine the risk of thrombophilia. An increase in the homocysteine level has therefore been known for a long time to be a risk factor for cerebral and cardiovascular as well as venous thromboses. Along with acquired causes mutations within the methyl-entetetrahydrofolate reductase (MTHFR) gene also lead to an increase in the homocysteine level. The best described change within the MTHFR gene is a point mutation at position 677. This genetic change leads to a thermolabile protein in which is limited in its catalytic effectivity. This in turn leads

to a loss of activity of up to 60%. An additional change at position 1298 likewise leads to a reduced enzymatic effectivity, which however is not as pronounced as with the previously mentioned mutation. Compound heterozygous carriers also develop reduced MTHFR activity.

Testing for the presence of these two MTHFR mutations can aid in the assessment of cardiovascular risk. In addition, determining the parameters in combination with additional thrombosis-related changes allows for the assessment of the individual thrombosis risk.

The Choice is Yours: Two Technologies – Your individual Result!

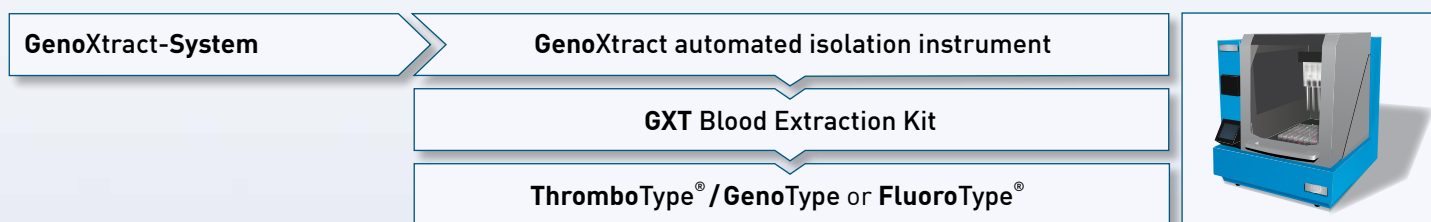


Whether DNA•STRIP or HyBeacon Technology – Here you can get Everything from one Source




No matter if you want to start with molecular genetic testing, expand your existing thrombophilia screening or look for an easy way to automate the processing: we have the appropriate solution for all your needs! For the simple and fast implementation of our thrombophilia product series in your laboratory routine, we offer user-friendly and cost-efficient technical equipment and instrumentation.

DNA Extraction – Manual or Automated

For the fully automated DNA isolation of up to 12 samples, we offer you the **GenoXtract-System**:



Amplification and Detection – Choose your Test System

Test systems of the DNA•STRIP Technology	Test systems of the HyBeacon Technology
Amplification of up to 24 samples with the thermal cycler GTQ-Cycler 24 	Amplification and detection of up to 12 samples with the FluoroCycler® 
Hybridization of up to 12 samples with the TwinCubator 	

Further information is available directly from Hain Lifescience or from your local distributor!

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