LABOR RENNER

Gene test information

FACTOR XIII V34L

- **Background**

  In the final step of the clotting cascade, coagulation factor XIII is activated by thrombin-catalyzed cleavage of its activation peptide. Active Factor XIII generates covalent cross-linking of fibrin strands and conversion of soluble fibrin molecules into a stable insoluble clot. Factor XIII also participates in other physiologic processes, including clot retraction, cell migration, and wound healing.

  The gene for factor XIII (gene symbol F13) carries a common Val34Leu polymorphism, causing a change in amino acid structure of the polypeptide close to the thrombin cleavage site. The 34L variant has been associated with a reduced risk for venous thrombosis, coronary artery disease and stroke in several studies.

- **Factor XIII (F13 V34L) genotypes**

Genotype	Frequency	Commentary
F13 VV :	53%	Wild type genotype.
F13 VL :	39%	Heterozygous for F13 34L. Modestlv reduced risk for venous thrombosis or coronary artery disease.
F13 LL :	8%	Homozygous for F13 34L. The risk for venous thrombosis or coronary artery disease is about 30% lower compared to the wild type genotype.

- **Indications for testing**

  Estimation of individual risk for venous thrombosis or coronary artery disease.

References:

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Vokó Z, Bereczky Z, Katona E, Adány R, Muszbek L.Factor XIII Val34Leu variant protects against coronary artery disease. A meta-analysis. Thromb Haemost. 2007;97:458-63.

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