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Risk factors for cardiovascular diseases or venous thrombosis involve both acquired and hereditary conditions. Mutations on genes of coagulation **factors II & V and methylenetetrahydrofolate reductase (MTHFR)** gene are responsible for this susceptibility to venous thrombosis. The mutation **G1691A** on factor's V gene cause the synthesis of the protein called "Leiden factor V" with the substitution of Arginine 506 with a glutamine; this substitution obstacles the cutting by activated C protein.

The result is a Resistance to activate C protein with increase of inherited risk in venous thrombosis.

Also the genetic mutation **G20210A** on prothrombin gene (factor II) is associated higher risk of venous thrombosis caused by an increase of prothrombin in blood.

The genetic mutations **C677T & A1298C** ON Gene MTHFR caused an increase of blood homocystein determining higher risk of vascular diseases.

## Containing of the kits

Factor V Coagulation kit-RQ (cod. FC.02RQ)	
FV-RQ Master Mix	Mix for amplification of factor V gene
FV Pr wt-VIC	Complementary probe to wild- type sequence
FV Pr mut-FAM	Complementary probe to mutated sequence

  

Factor II Coagulation kit-RQ (cod. FC.01RQ)	
FII-RQ Master Mix	Mix for amplification of factor II gene
FII Pr wt-VIC	Complementary probe to wild- type sequence
FII Pr mut-FAM	Complementary probe to mutated sequence

  

MTHFR kit-RQ (cod. FC.04RQ)	
MTHFR-RQ Master Mix	Mix for amplification of MTHFR gene
MTHFR Pr wt-VIC	Complementary probe to wild- type sequence
MTHFR Pr mut-FAM	Complementary probe to mutated sequence

## How does the kit work?

The **Coagulation Factor V kit-RQ**, the **Coagulation Factor II kit-RQ** and the **MTHFR kit-RQ** permit to make the discrimination of, respectively: Genetic variants G1691A on factor V gene, G. variants G20210A on factor II gene and G. variants C677T & A1289C on gene MTHFR. All of this is possible by Real Time PCR. All the kits contains: the primers for the amplification of mutated genes regions and 2 fluorescent probes marked in 5'; VIC and FAM reporter dyes are used for the WT and mutant probes, respectively

## Why Real Time PCR?

The Real Time PCR combines amplification of cDNA and detection of amplification products in a single tube by measuring the fluorescence. Monitoring of fluorescence intensity during PCR reaction (Real time detection) **permit the direct quantification of amplification products**. Avoiding the post-PCR manipulation we can almost totally avoid any possible risk of **contamination**.

Product	Unit	Cat.-No.
Factor V Coagulation Kit-RQ	40 tests	FC.02RQ
Factor II Coagulation Kit-RQ	40 tests	FC.01RQ
MTHFR Kit-RQ	40 tests	FC.04RQ

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