

gb HEMO FV (G1691A)

Clinical implications

Coagulation factor V is a plasmatic glycoprotein involved in the process of blood coagulation. In its activated form, factor V participates in the conversion of prothrombin to thrombin which contributes to the creation of blood clots. Mutation G1691A (so-called Leiden mutation) causes replacement of amino acid arginine by glycine in the position 506 of the factor V protein chain. The frequency of the Leiden mutation in the healthy European population ranges between 3–5 %, whereas in patients who suffer from thromboembolic events (TEN) this frequency is about 20–40 %. The risk

of venous thrombosis increases 3–10× in patients with heterozygote genotype and 20–80× in mutated homozygotes.

Principle of detection

The kit is intended for detection of mutation G1691A (Leiden) in coagulation factor V in human genomic DNA. Detection is based on **real-time polymerase chain reaction (qPCR) using fluorescently labelled probes (allelic discrimination)**.

Available products

Cat. No.	Product	rxn
3200-025	gb HEMO FV (G1691A)	25
3200	gb HEMO FV (G16910A)	100

1 kit contains reagents to provide 25 or 100 PCR reactions (20 µl volume of each reaction).

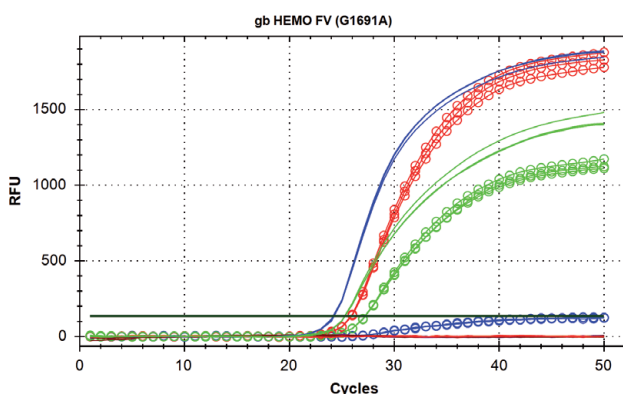
Parameters of the diagnostic kit

- *in vitro* diagnostics
- CE IVD marked
- ready-to-use assay
- sample concentration 1-100 ng/µl
- positive and negative controls included
- FAM and HEX channels detection
- identical amplification profile as gb HEMO, gb GENETIC, gb PHARM kits

Content of the diagnostic kit

* Component	Conc.	Purpose
● Assay qPCR F5 (G1691A)	1.25×	Detection assay
● Deionized Water		Negative Control
● Standard WT F5 (G1691A)	10 ⁴ cop/µl	Positive Control
● Standard MUT F5 (G1691A)	10 ⁴ cop/µl	Positive Control
● Standard HET F5 (G1691A)	10 ⁴ cop/µl	Positive Control

* Lid colour



Validated for cyclers

- Rotor-Gene 3000/6000/Q (Corbett Research, Qiagen)
- iCycler iQ5/CFX96/CFX96 Touch (Bio-Rad)
- ABI 7500/7500 Fast/7900HT (Applied Biosystems)
- SmartCycler (Cepheid)
- MIC (Bio Molecular Systems)
- AriaMx/Stratagene Mx3000P/Mx3005P (Agilent Technologies)
- Light Cycler 480/Cobas z480 (Roche Diagnostics)

Fig. 1 – Detection of FV (G1691A) standards on CFX96 device; blue line – wild type; red line – mutant; green line – heterozygote; smooth line – FAM channel; dotted line – HEX channel