## Clinical implications

Factor XIII, also called fibrin stabilizing factor, is a proenzym circulating in plasma. Its active form stabilizes the fibrin network by catalytic formation of covalent bonds between fibrin molecules and other proteins (alpha-2-antiplasmin, fibronectin, collagen), thereby protecting the coagulum against fibrinolysis. FXIIIa plays an important role not only in hemostasis but also during wound healing and in maintaining pregnancy. The presence of the V34L has a protective effect against myocardial infarction and venous thrombosis. On the other hand, it is also stated that the presence of this polymorphism is associated with an increased risk of recurrent pregnancy loss in the first trimester, which was also found in connection with the PAI-1 (4G/5G) mutation.

## Principle of detection

The kit is intended for detection of mutation V34L in fibrin stabilizing factor XIII 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 |
|---|---|---|
| 3209-025 | gb HEMO FXIII (V34L) | 25 |
| 3209-100 | gb HEMO FXIII (V34L) | 100 |

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

## Parameters of the diagnostic kit

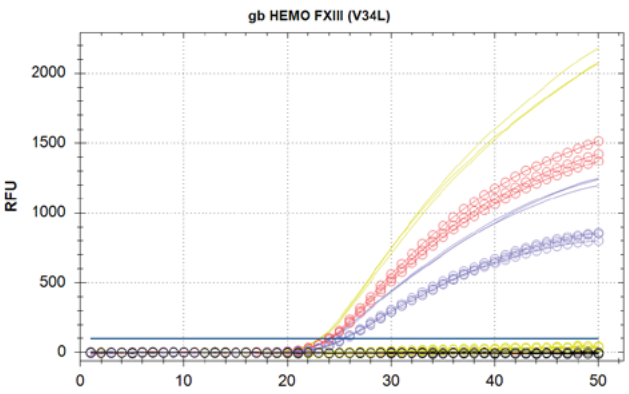
- ***in vitro* diagnostics**
- **CE IVD, IVDR certified**
- **ready-to-use assay**
- **sample concentration 10-100 ng/µl**
- **positive and negative controls included**
- **FAM and HEX channels detection**
- **identical amplification profile as gb HEMO, gb GENETIC, gb PHARM kits**

## Content of the diagnostic kit

| * | Component | Conc. | Purpose |
|---|---|---|---|
| ● | Assay qPCR F13 (V34L) | 1.25× | Detection assay |
| ● | Deionized Water | | Negative Control |
| ● | Standard WT F13 (V34L) | $10^4$ cop/µl | Positive Control |
| ● | Standard MUT F13 (V34L) | $10^4$ cop/µl | Positive Control |
| ● | Standard HET F13 (V34L) | $10^4$ 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 (Agilent Technologies)**
- **Light Cycler 480/Cobas z480 (Roche Diagnostics)**
- **QuantStudio 5 (Applied Biosystems)**

*Fig. 1 – Detection of FXIII (V34L) standards on CFX96 device; yellow line – wild type; red line – mutant; violet line – heterozygote; smooth line – FAM channel; dotted line – HEX channel*