

gb PHARM Warfarin

Clinical implications

Warfarin is a widely used oral coumarin-type anticoagulant. Warfarin as an inhibitor of enzyme VKORC1 reduces recycling of vitamin K (cofactor for the coagulation cascade) and is bio transformed mainly through the cytochrome CYP2C9. The narrow therapeutic index of the drug requires individual adjustment of therapeutic doses and monitoring of INR. The bleeding complications, which are reported by up to 10% of patients, limit use of the medicament. Warfarin anticoagulant activity is affected by many factors, especially the presence of polymorphisms, age, weight, dietary habits and others. The polymorphism VKORC1 G1639A, with a frequency of occurrence of 39% in the European population, is associated

with an increased sensitivity to warfarin. Genotyping of CYP2C9*2, CYP2C9*3 and VKORC1 G1639A is recommended for more accurate initial dosage of warfarin, reducing the time to achieve a stable INR value, which will reduce the incidence of bleeding and thromboembolic diseases.

Principle of detection

The kit is intended for detection of mutation CYP2C9*2, CYP2C9*3 and VKORC1 G1639A in human genomic DNA by **real-time PCR method (allelic discrimination)**.

Available products

Cat. No.	Product	rxn
3250-025	gb PHARM Warfarin	25
3250-050	gb PHARM Warfarin	50

1 kit contains reagents to provide 25 or 50 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 CYP2C9*2	1.25×	Detection assay
Standard WT CYP2C9*2	10 ⁴ cop/µl	Positive Control
Standard MUT CYP2C9*2	10 ⁴ cop/µl	Positive Control
Standard HET CYP2C9*2	10 ⁴ cop/µl	Positive Control
Assay qPCR CYP2C9*3	1.25×	Detection assay
Standard WT CYP2C9*3	10 ⁴ cop/µl	Positive Control
Standard MUT CYP2C9*3	10 ⁴ cop/µl	Positive Control
Standard HET CYP2C9*3	10 ⁴ cop/µl	Positive Control
Assay qPCR VKORC (G1639A)	1.25×	Detection assay
Standard WT VKORC (G1639A)	10 ⁴ cop/µl	Positive Control
Standard MUT VKORC (G1639A)	10 ⁴ cop/µl	Positive Control
Standard HET VKORC (G1639A)	10 ⁴ cop/µl	Positive Control
Deionized Water		Negative 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 (Applied Biosystems)
- SmartCycler (Cepheid)
- MIC (Bio Molecular Systems)
- Light Cycler 480/Cobas z480 (Roche Diagnostics)

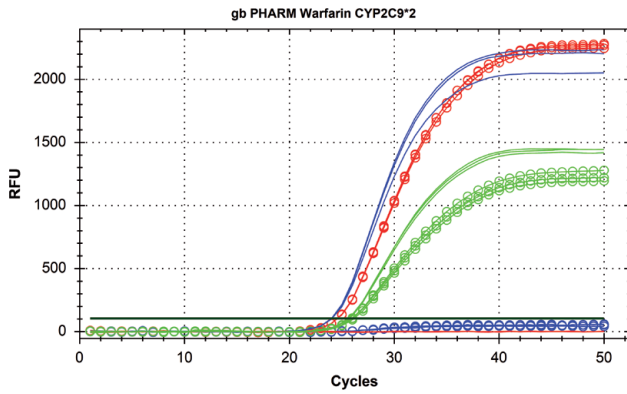


Fig.1 – Detection of CYP2C9*2 standards on CFX96 device; blue line – wild type; red line – mutant; green line – heterozygote; smooth line – FAM channel; dotted line – HEX channel

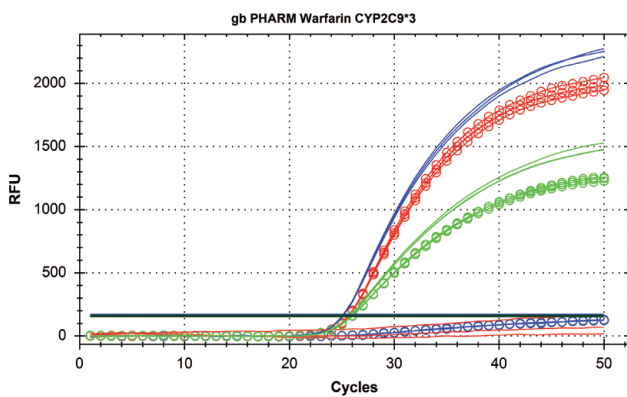


Fig.2 – Detection of CYP2C9*3 standards on CFX96 device; blue line – wild type; red line – mutant; green line – heterozygote; smooth line – FAM channel; dotted line – HEX channel

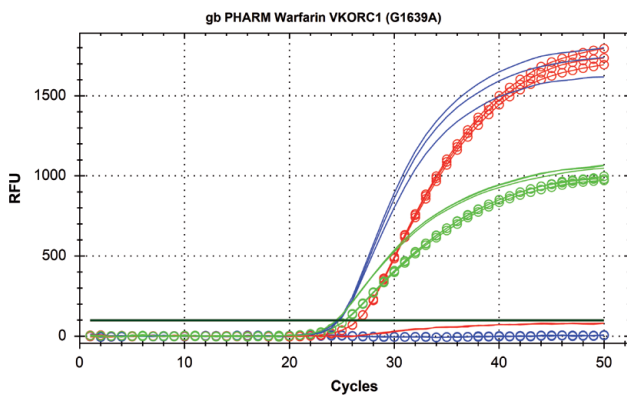


Fig.3 – Detection of G1639A standards on CFX96 device; blue line – wild type; red line – mutant; green line – heterozygote; smooth line – FAM channel; dotted line – HEX channel