

gb PHARM CYP2C19

Clinical implications

CYP2C19 is a clinically relevant enzyme involved in the biotransformation of a range of antidepressant, anticoagulant and antimycotic drugs. Side effects of clopidogrel treatment are associated with severe consequences. Clopidogrel is a very effective antiplatelet drug, the effect of which is based on an irreversible inhibition of platelet receptor P2RY12. It is a pro-drug that is activated by the cytochrome P450 complex, predominantly by the CYP2C19. Slow metabolizers are the most common carriers of the allele *2 and *3 and ultra-fast metabolism is associated with the allele *17 in the Caucasian population. Slow metabolisers do not produce an active form

of the drug and they are in risk of non functional treatment. The ultra-fast metabolisers are in danger of bleeding conditions due to reduced platelet activity.

Principle of detection

Kit for detection of CYP2C19*2, CYP2C19*3 and CYP2C19*17 gene mutation. The detection principle is based on a **real-time polymerase chain reaction (qPCR) using fluorescent labeled probes (allelic discrimination)**.

Available products

Cat. No.	Product	rxn
3254-025	gb PHARM CYP2C19	25
3254-050	gb PHARM CYP2C19	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 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
Deionized water		Negative Control
Assay qPCR CYP2C19*2	1.25×	Detection assay
Assay qPCR CYP2C19*3	1.25×	Detection assay
Assay qPCR CYP2C19*17	1.25×	Detection assay
Standard WT	10 ⁴ cop/µl	Positive Control
Standard MUT	10 ⁴ cop/µl	Positive Control
Standard HET	10 ⁴ cop/µl	Positive Control

* Lid colour



Validated for cyclers

- Rotor-Gene 3000/6000/Q (Corbett Research, Qiagen)
- CFX96/CFX96 Touch (Bio-Rad)
- ABI 7500/7500 Fast (Applied Biosystems)
- Light Cycler 480/Cobas z480 (Roche Diagnostics)
- QuantStudio 5 (Applied Biosystems)

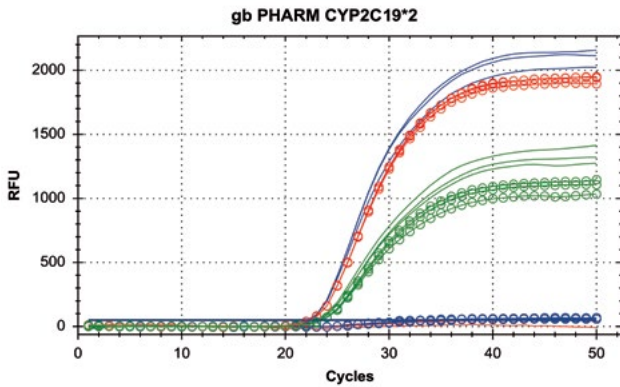


Fig. 1 – Detection of CYP2C19*2 standards on CFX96 device; blue line – wild type; red line – mutant; green line – heterozygote; smooth line – FAM channel; dotted line – HEX channel

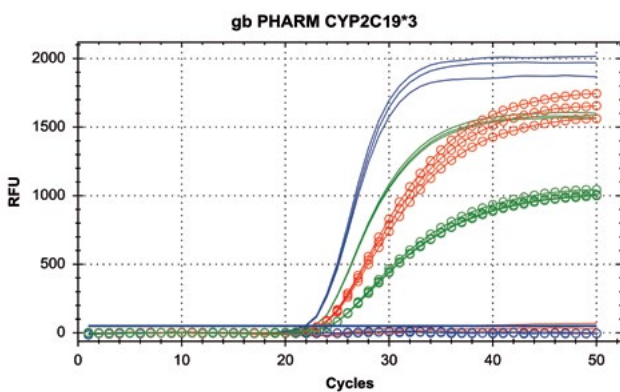


Fig. 2 – Detection of CYP2C19*3 standards on CFX96 device; blue line – wild type; red line – mutant; green line – heterozygote; smooth line – FAM channel; dotted line – HEX channel

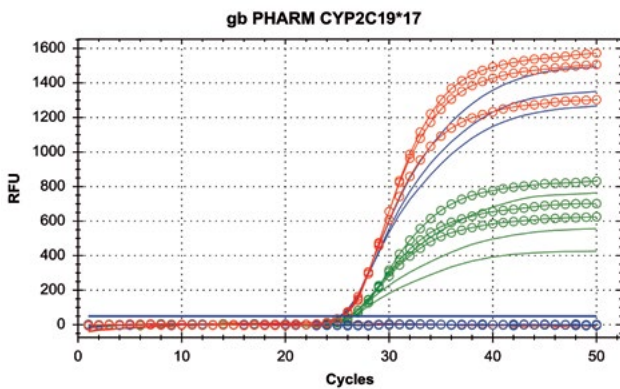


Fig. 3 – Detection of CYP2C19*17 standards on CFX96 device; blue line – wild type; red line – mutant; green line – heterozygote; smooth line – FAM channel; dotted line – HEX channel