gb ONCO JAK2 (V617F)

Clinical implications

The JAK2 enzyme is involved in the signaling pathway leading to blood cell production. Substitution of the amino acid valine for phenylalanine at position 617 leads to uncontrolled cell proliferation and survival of hematopoietic precursors. Somatic mutation occurs in most patients with diseases such as essential thrombocythemia and chronic idiopathic myelofibrosis. A higher risk of complications (thrombosis, abortion, etc.) is generally expected in carriers of this mutation.

Principle of detection

The kit is intended for semi-quantitative determination of the JAK2 V617F mutation status (c.1849G>T; p.Val617Phe) in exon 14 of the JAK2 gene encoding Janus kinase 2. The detection provides information about the presence of the V617F mutation in the gDNA sample; an indicative estimate of relative mutation load may be provided as supplementary information.The detection principle is based on **real-time PCR using fluorescently labeled probes and allele specific primers**.

Available products

Cat. No.	Product	rxn
3286-024	gb ONCO JAK2 (V617F)	24
3286-048	gb ONCO JAK2 (V617F)	48

1 kit contains reagents to provide 24 or 48 PCR reactions (25 µl volume of each reaction).

Parameters of the diagnostic kit

- **CE IVD, IVDR certified**
- **ready-to-use assay**
- **LOD of the kit is 0.01% at the 95% confidence**
- **sample concentration 8-80 ng/µl**
- **positive and negative controls included**
- **FAM channel detection**
- **identical amplification profile as gb HEMO, gb GENETIC, gb PHARM kits**

Content of the diagnostic kit

*	Component	Conc.	Purpose
🟢	Assay qPCR JAK2 Control V617F	1.25×	Control assay
🔵	Assay qPCR JAK2 MUT V617F	1.25×	Detection assay
🟠	Master Mix JAK2 V617F	2.083×	Master Mix
⚪	Deionized Water		Negative Control
🟡	Standard WT JAK2 V617F	10^4 cop/µl	Positive Control
🟣	Standard MUT 1% JAK2 V617F	10^4 cop/µl	Positive Control

**Lid colour*



Validated for cyclers

- **CFX Opus (Bio-Rad)**
- **CFX96/CFX96 Touch (Bio-Rad)**
- **Light Cycler 480/Cobas z480 (Roche Diagnostics)**
- **QuantStudio 5 (Applied Biosystems)**

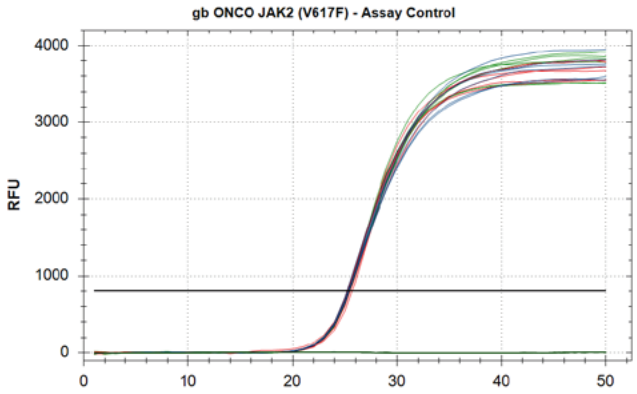


Fig. 1 – Detection of assay Control on CFX96 device; red line – MUT; green line – 1% MUT; blue line – WT

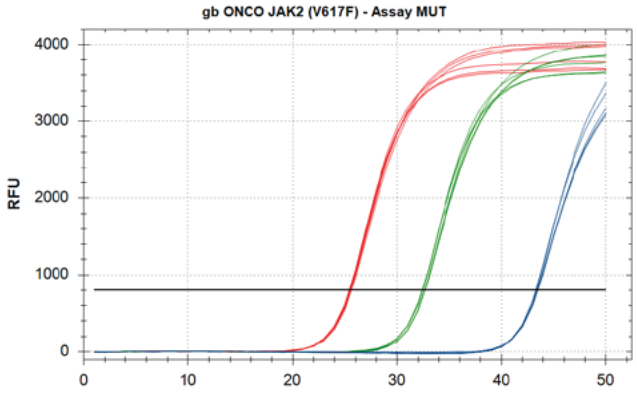


Fig. 2 – Detection of assay MUT on CFX96 device; red line – MUT; green line – 1% MUT; blue line – WT

CE IVD