

## TRUPCR® JAK2 Kit

### NEED

The Janus Kinase 2 gene (JAK2) codes for a tyrosine kinase (JAK2) that is associated with the cytoplasmic portion of a variety of transmembrane cytokine and growth factor receptors important for signal transduction in hematopoietic cells. The Janus Kinase 2 (JAK2) mutation p. Val617Phe (c. 1849G>T; commonly abbreviated to V617F) was discovered in 2005 and determined to be present in approximately 97% of patients with PV and 50 to 60% of patients with ET and PMF. The mutation results in constitutive activation of JAK2 tyrosine kinase and increased blood cell production, and is established to be a primary molecular event causing PV. The JAK2 V617F protein is an obvious candidate for drug-targeting, with inhibitor drugs in ongoing development; ruxolitinib was US Food and Drug Administration-approved in 2011 and European Medicines Agency-approved in 2012. It is therefore important to diagnose JAK2 V617F positive patients and monitor treatment response; the detection of JAK2 V617F is included in the WHO criteria for the diagnosis of MPN.

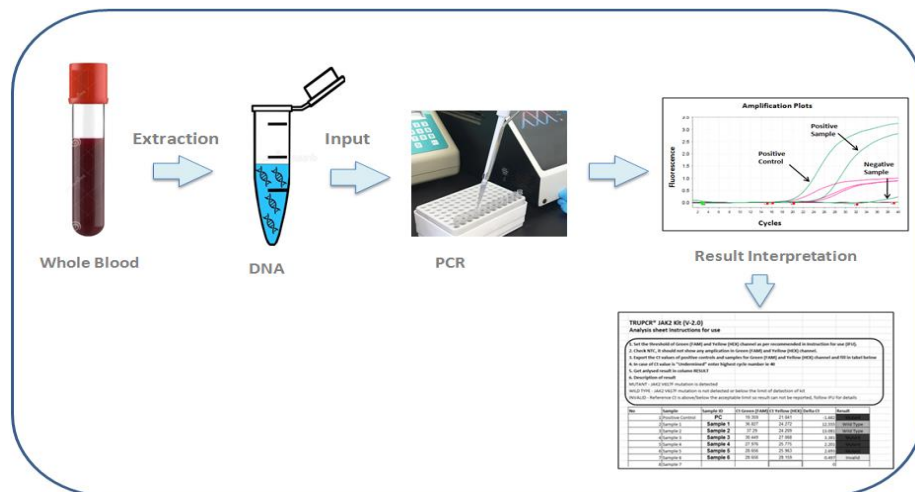
### SOLUTION BY TRUPCR®

The TRUPCR® JAK2 Kit is designed for the qualitative detection of the V617F mutation in the Janus Kinase 2 gene by Real-Time PCR on genomic DNA of patients suspected with myeloproliferative disorder. The kit comes in two variants, both for qualitative and quantitative detection of V617F mutation in the Janus Kinase 2.

The TRUPCR® JAK2 Qualitative Kit is based on allele specific amplification and is achieved by ARMS PCR. The kit is composed of primer probe mixture where mutation-specific reaction (JAK2 V617F) and a reference (wild type control without any known polymorphism/mutation) are amplified simultaneously in each tube.

The TRUPCR® JAK-2 Quantitative Kit (Allele Burden) is based on oligonucleotide hydrolysis principle for quantification V617F mutation in JAK-2 (Janus Kinase 2) gene against a background of wild-type genomic DNA. The test utilizes mutation-specific JAK2 V617F/G1849T targeted fluorescent probe to detect and quantify low-copy number (1%) JAK2V617F-mutant DNA in sample.

### TEST PROCEDURE



### PRODUCT HIGHLIGHTS:

- Sample Type – Whole blood, purified peripheral blood lymphocytes, polynuclear cells, or granulocytes
- Limit of Detection
  - TRUPCR® JAK2 Quantitative Kit – Sensitive to quantify up to 1% mutant sequence copies in a background of 99% wild-type DNA
  - TRUPCR® JAK2 Qualitative Kit – detect JAK2 V617F 0.5% mutant allele in background of 99.5% wild type allele
- Compatible Instruments – Applied Biosystems™ 7500 series / StepOne series / QuantStudio® series, Rotor-Gene Q, Bio-Rad CFX96, CFX384, AriaMx Real-Time PCR, Roche - LightCycler® 480 – II, Line gene K Real-Time PCR

### ORDERING INFORMATION

Cat. No.	Description	Size
3B1246	TRUPCR® JAK2 Qualitative Kit	24 Reactions
3B1247	TRUPCR® JAK2 Qualitative Kit	48 Reactions
3B1248	TRUPCR® JAK2 Quantitative Kit (Allele Burden)	24 Reactions
3B1249	TRUPCR® JAK2 Quantitative Kit (Allele Burden)	48 Reactions

