**Cytochrome P450 CYP2C19 Genotype Testing**

**Clinical Indication and Relevance**
Genetic variance in the *cytochrome P450 2C19* gene can affect the pharmacokinetic and pharmacodynamic responses to different drugs, including clopidogrel and voriconazole. The *CYP2C19* genotyping test is used to identify individuals carrying genetic variants that can influence response to treatment with drugs that are metabolized by this enzyme. Determination of a patient’s genotype and drug response can help to optimize efficacy and minimize adverse effects of therapy.

**Methodology**
The assay is performed on patient genomic DNA by real-time PCR. Three common genetic variants of the *CYP2C19* gene (allele *2*, rs4244285; allele *3*, rs4986893; and allele *17*, rs12248560) are detected by TaqMan probe technique. Genotypes of three common genetic variants are reported.

**Sensitivity**
N/A

**Turn-around Time**
5-7 working days
STAT sample: 2 working days – please call lab before submitting sample

**Sample Requirements**

**Collect**
Peripheral blood (PB): 3-5 mL (1 mL minimum), in purple top (sodium EDTA) tube.

**Transport**
Ambient or 2-8°C (wet ice or cold packs). Do not freeze.

**Stability**
PB samples: ambient - 8 hours; refrigerated - 48 hours.

**Unacceptable Samples**
Serum or plasma; frozen peripheral blood; clotted blood; severely hemolyzed samples.

**CPT Code(s)**
G0452-26: Molecular pathology procedure; physician interpretation and report

**References**