**Warfarin Genotyping Test (CYP2C9 and VKORC1, 3 variants)**

**Clinical Indication and Relevance**
The genetic variants in CYP2C9 and VKORC1 genes can affect the pharmacokinetic and pharmacodynamic parameters of warfarin. The warfarin genotyping test is used to identify individuals at risk of increased sensitivity to warfarin treatment. Determination of a patient’s genotype can help predict individual drug response and therefore 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 CYP2C9 gene (allele *2, rs1799853; allele *3, rs1057910) and VKORC1 gene (allele -1639 or 3673G>A, rs9923231) are detected by TaqMan probe technique. Genotypes of three common genetic variants are reported. Where possible a therapeutic warfarin dose is recommended. INR measurement intervals are included in the report.

**Sensitivity**
N/A

**Turn-around Time**
Three working days

**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)**
83891 isolation or extraction of highly purified nucleic acid
83898 Amplification of patient DNA, single primer pair x 3
83896 Nucleic acid probe, each x 6
83912 molecular diagnostics, interpretation & report

**References**