DNA-Guided Anti-Platelet Management with the CLOPIDOGREL HILOmet System

*FDA revised the Plavix® label in May 2009 including CYP2C19 DNA Typing to Personalize Anti-Platelet Management.*

**DNA-Testable Drug Metabolism Deficiencies Reduce Clopidogrel Benefit.**

Clopidogrel (Plavix®) is widely prescribed for the management of myocardial infarction and acute coronary syndrome, and to prevent thrombosis following PCI intervention. Clopidogrel functions as an inhibitor of platelet adhesion. A pro-drug, Clopidogrel requires first, for therapeutic effect, its activation to the functional metabolite, a thiol derivative of Clopidogrel. The cytochrome P450 (CYP450) CYP2C19 isoenzyme is required for Clopidogrel conversion to its active metabolite.

Common DNA polymorphisms in the CYP2C19 gene can reduce isoenzyme activity and decrease Clopidogrel conversion to its active metabolite. CYP2C19 variants result in increased frequency of myocardial infarcts and decreased 5-year survival rates. The CLOPIDOGREL HILOmet System is revolutionary for clinical practice. By means of DNA Typing, the innate Clopidogrel metabolic capacity of the patient can be predicted and diagnosed simply from a blood sample.

**DNA-Guided Clopidogrel Therapy**

Patients with certain CYP2C19 polymorphisms have decreased active metabolite levels and are prone to myocardial infarction and increased morbidity. CYP2C19 DNA Typing can identify patients with these drug metabolism deficiencies, allowing consideration of alternative therapies, including Prasugrel (Effient®).

Proton Pump Inhibitors (PPIs), such as esomeprazole (Nexium®), omeprazole (Prilosec®), and lansoprazole (Prevacid®), are frequently co-prescribed for GERD and peptic ulcers in Clopidogrel patients. These PPIs are functional inhibitors of CYP2C19 and decrease Clopidogrel conversion, which is undesirable in patients already deficient in drug metabolism.

**Technical Information**

The CLOPIDOGREL HILOmet System determines an individual’s innate Clopidogrel metabolic capacity by DNA Typing simultaneously the CYP2C19 gene for 7 variants. The report to the physician includes DNA Typing results and recommended Clopidogrel management based on published guidelines.

**Ordering the DNA Test for Clopidogrel**

Order forms are available at [www.genomas.net/LPH](http://www.genomas.net/LPH). The CLOPIDOGREL HILOmet System is available through Clinical Laboratory Partners (CLP), test code 70001. A listing of CLP Patient Service Centers can be found at [www.clpct.com](http://www.clpct.com) or 800-286-9800.