Test: Abacavir Sensitivity Genotyping (HLA B 5701)

Date: November 3, 2008

Test Overview:

The FDA issued an alert on 7/24/08 recommending pre-therapy genetic screening for the presence of the HLA-B*5701 allele and the selection of alternative therapy in positive subjects in order to decrease the risk of serious and sometimes fatal abacavir hypersensitivity reactions. This test does not discriminate between HLA-B*5701, HLA-B*5706 or other rare alleles. Confirmation by sequence is available upon request.

Clinical Significance:

An estimated 2-8% of people who take the Abacavir develop a potentially severe allergic hypersensitivity reaction. This hypersensitivity reaction is a multi-organ syndrome characterized by some combination of skin rash, fever, gastrointestinal, and respiratory symptoms, usually within the first 6 weeks after starting the drug. However, due to wide array of symptoms and the common use of multiple medications in these patients, an early and definitive diagnosis of abacavir HSR may be difficult.

The FDA has reviewed data from two studies that demonstrate the risk of serious and sometimes fatal hypersensitivity reactions (HSR) caused by abacavir therapy is significantly more common in patients with a particular human leukocyte antigen (HLA) allele, HLA-B*5701. The first study (PREDICT-1) estimates that 61% of HLA-B*5701 positive subjects will develop abacavir HSR during treatment with abacavir compared with 4.5% of HLA-B*5701 negative subjects. The second study (SHAPE) supports the strong association between HLA-B*5701 and clinically-suspected abacavir HSR in both African American and Caucasian subjects in the United States. The data from SHAPE supports pre-screening for the HLA-B*5701 allele in the broader US population to improve the safety profile of abacavir.

Therefore, the FDA recommends screening for the HLA-B*5701 allele for all patients prior to starting abacavir therapy and prior to reinititation of abacavir in patients of unknown HLA-B*5701 status. For HLA-B*5701-positive patients, treatment with an abacavir-containing regimen is not recommended and should be considered only under exceptional circumstances when the potential benefit outweighs the risk.

References:

- Mallal, S. et al. (2008) HLA-B*5701 Screening for Hypersensitivity to Abacavir. N Engl J Med. 358(6):568-579.
- Hughes, C.A. et al. (2008) Abacavir Hypersensitivity Reaction: an Update. The Annals of Pharmacotherapy, 44:387-396.
- Saag, M., et al. (2008) High Sensitivity of Human Leukocyte Antigen-B*5701 as a Marker for Immunologically Confirmed Abacavir Hypersensitivity in White and Black Patients. Clinical Infectious Diseases (CID), 46:1111-1118.
- http://www.fda.gov/cder/drug/InfoSheets/HCP/abacavirHCP.htm

Method:
DNA Amplification and liquid bead array.

Availability:
Monday-Friday; Results in 7 days.

Specimen:

Whole Blood

Collect:
10 mL ACD (Yellow) tube. Solution A or B acceptable. Transport to laboratory within 48 hours of collection.

Volume: 10 mL

Transport:
Room Temperature

Unacceptable Conditions:
Heparin tube.

Reference Range:
With report

CPT Codes:
83890; 83898; 83894; 88384; 83912

Additional Information:
Client List fee: $275