



***FLT3* Mutational Analysis in Acute Myeloid Leukemia**

Current classifications of Acute Myeloid Leukemia (AML) rely heavily on identification of cytogenetic abnormalities. The karyotype can be used to divide patients into good, intermediate and poor prognostic categories and are used to guide appropriate therapy. Approximately 50 percent of patients, however, have a normal karyotype. These patients fall into an intermediate risk category. It is clear, however, that these patients are not a uniform group. Some respond well to conventional chemotherapy and others either fail to achieve remission or relapse early. A molecular abnormality in the gene *FLT3* can help further classify these patients.

FLT3 is a tyrosine kinase involved in myeloid maturation. Mutations in *FLT3* are one of the more common abnormalities in acute myeloid leukemia, as they arise in 20 percent to 28 percent of AML. Patients with normal cytogenetics and an activating mutation *FLT3 ITD* (internal tandem duplication) have a worse prognosis than those lacking this mutation. The prognosis of those with a point mutation in the kinase domain *FLT3 D835* is still under investigation. Clinical trials are available using targeted therapy directed at *FLT3*.

Because of the frequency of this mutation, the added ability to predict leukemia behavior and the presence of clinical trials targeting this molecule, evaluation of *FLT3* gene status has become routine in patients with a new diagnosis of AML. We now perform this test on peripheral blood and bone marrow aspirate material.

Laboratory: Molecular Diagnostic Laboratory

Name of test: *FLT3* Mutational Analysis

Order Number: 90-02301

CPT codes:

83890

83898 x 3

83892

83909 x3

83912

The *FLT3* will be performed weekly starting Thursday April 5, 2007.

Please call the Molecular Diagnostics Laboratory at 404-712-0606 for more information.