

# PreventionGenetics

## Disease Prevention through Genetic Testing

A FAX to: \_\_\_\_\_

FAX Number: \_\_\_\_\_

### **Cerebral Cavernous Malformation1 (CCMI) KRIT1 exon 10 Mutation Detection by PCR-RFLP Analysis.**

Cerebral cavernous malformations (CCM) are congenital vascular anomalies of the brain that can cause significant neurological disabilities, including intractable seizures and hemorrhagic stroke. One locus (of 3 identified so far) for autosomal dominant CCM (CCMI) maps to chromosome region 7q21-q22. Using a genomic sequence-based positional cloning strategy, *KRIT1*, encoding a protein that interacts with the Krev-1/rap1a tumor suppressor, has been identified as the *CCMI* gene.

The identical mutation is common to many Mexican-American families (+/-70%). This C>T transition in exon 10 changes a *GLN* to a premature termination codon. Other Mexican-American and non-Hispanic Caucasian *CCMI* kindreds harbor other mutations in other exons of the *KRIT1* gene. Identification of a common Mexican-American mutation has potential clinical significance for presymptomatic diagnosis of CCM in this population. The identification of the familial Hispanic *KRIT1* mutation entails extraction of genomic DNA from blood, PCR amplification of exon 10 of the *KRIT1* gene, Afl II digestion and gel electrophoresis of resulting PCR amplicons, and analysis of restriction fragment length polymorphisms.

### **SPECIMEN REQUIREMENTS**

Collect a minimum of 1 to 10 ml of whole blood in EDTA (purple top tube) or ACD (yellow top tube). Whole blood collected in Na Heparin is acceptable but not preferred.

Ship whole blood specimens at ambient temperature. Do not freeze blood tube.

During hot summer months, include a frozen ice pack in the shipping container. Do not allow the ice pack to come in direct contact with the specimen tubes. In Winter, include an unfrozen ice pack to help moderate extremes in temperature. The DNA in whole blood is stable for at least 48 hours at 21°C, 5-7 days at 4°C.

### **CPT Codes and Cost**

|   |       |                 |
|---|-------|-----------------|
| <i>CCMI</i> "common Hispanic" Mutation Test by RFLP |       | <b>\$210.00</b> |
| Molec Diag, Ascertainment                           | 83890 |                 |
| Molec Diag, Isolation                               | 83891 |                 |
| Molecular Diag, Amplif                              | 83898 |                 |
| Mutat Id By Seq, Single Seg                         | 83904 |                 |
| Molecular Diag, Separation                          | 83894 |                 |
| Interpretation And Report                           | 83912 |                 |

### **CLIA Certificate of Accreditation Info.**

CLIA ID number: **Pending** (LAP#: 7185561 AU ID: 1407125) Effective: **12/28/03**

Applied for by: **Dr. Eric W. Johnson, Director, Molecular Diagnostics and BioBanking**

### **Ship to:**

Attn: Diagnostics Lab  
PreventionGenetics LLC  
3700 Downwind Drive  
Marshfield, WI 54449  
Contact: 715-387-0484  
FAX: 715-384-3661

### **Contact for info:**

Dr. Eric W. Johnson  
Director, Molecular Diagnostics and BioBanking  
715-387-0484  
eric.johnson@preventiongenetics.com