

Cerebral Cavernous Malformation1 (CCMI) KRIT1 exon 10 “Common Hispanic” Mutation Detection.

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 C1363T 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, sequencing and electrophoretic separation of product, and comparison of this patient specific sequence with “typical” *KRIT1* exon 10 sequence.

Specimen Requirements

- Collect 2-5 ml of whole blood in EDTA (purple top tube) or ACD (yellow top tube). 5 ml is the preferred volume.
- Only one blood tube is required for multiple tests.
- Ship whole blood specimens at room temperature.
- Do not freeze blood.
- During hot weather, include a frozen ice pack in the shipping container. Do not allow the ice pack to come in direct contact with the specimen tube.
- In cold weather, 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

CCMI “common Hispanic” Mutation Test by sequencing		\$230.00
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	

Accreditation Info. CLIA ID #: 52D1027685 (expires 1/18/07) (CAP#: 7185561, AU ID: 1407125 expires 12/20/06)

Ship to:

Attn: Diagnostics Lab
PreventionGenetics LLC
3700 Downwind Drive
Marshfield, WI 54449 USA
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