ATP6V0A2 MUTATION ANALYSIS
JOHN WELSH CARDIOVASCULAR DIAGNOSTIC LABORATORY

ATP6V0A2 (ATPase, H+ TRANSPORTING, LYSOSOMAL, V0 SUBUNIT A2) is a component of the V(0) domain of H(+-) ATPases which is essential for acidification of diverse cellular components, including endosomes, lysosomes, clathrin-coated vesicles, secretory vesicles, and chromaffin granules. Human ATP6V0A2 gene contains 20 exons mapped within chromosome 12q24.31. Mutations in this gene are found in patients with wrinkly skin syndrome characterized at birth by wrinkled skin of the hands and feet with an increased number of wrinkles on the palms and soles, besides poorly developed skeletal musculature, hypotonic with winging of the scapulas, and defects of venous pattern. An atrial septal aneurysm was demonstrated on echocardiography. Definitive genotype/phenotype correlations have not been described.

The John Welsh Cardiovascular Diagnostic Laboratory offers molecular genetic testing for ATP6V0A2 mutations. Individuals are tested by automatic fluorescent DNA sequencing of the coding exons of the ATP6V0A2 gene. We strongly recommend initial testing of a clearly affected individual, if available, in order to provide the greatest test sensitivity and clearest interpretation of results for subsequent family members. Genetic counseling is recommended for all individuals.

REASONS FOR REFERRAL

Molecular confirmation of the diagnosis of valvar and vascular disorders, wrinkly skin syndrome.

METHODOLOGY

Genomic DNA is analyzed for ATP6V0A2 mutations by DNA sequencing of the coding exons of the ATP6V0A2 gene, as well as the exon/intron junctions and a portion of the 5’ and 3’ untranslated region. Patient DNA is sequenced in both the forward and reverse orientations. If a mutation is identified, additional family members are analyzed only for the familial mutation by automatic fluorescent DNA sequencing.

SERVICE FEES

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<th>Direct and Institutional Billing</th>
<th>CPT Codes</th>
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<tr>
<td>Index Case (Male or Female)</td>
<td>$1,000 per sample</td>
<td>81406</td>
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<tr>
<td>Additional Family Members</td>
<td>$300 per sample; known familial mutation only</td>
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SENSITIVITY

DNA Sequencing Analysis: Approximately 99 percent detection of mutations in the coding exon 1-20 of ATP6V0A2.

SPECIMEN REQUIREMENTS

Blood (preferred): EDTA (purple-top) tubes: Adult: 5 cc  Child: 5 cc  Infant: 2-3 cc
Tissue: Frozen (preferred), RNAlater
Other Body Fluids or Formalin-fixed, Paraffin-embedded Tissue: Call to inquire