Mabry Syndrome: Sequencing Panel

Test Code: MM670
Turnaround time: 6 weeks
CPT Codes: 81479 x1

Condition Description

Mabry syndrome is a rare genetic condition characterized by hyperphosphatasia (persistent elevation of alkaline phosphatase in the blood), moderate-to-severe intellectual disability, and delayed development. The clinical spectrum may also consist of seizures, hypotonia, nail hypoplasia, brachytelephalangy (shortened bones at the ends of fingers), distinctive facial features, and abnormalities of the digestive system. A variation of signs and symptoms is observed among individuals with this syndrome.

Mabry syndrome is inherited an autosomal recessive manner. Genetic changes in the PIGV, PIGY, PIGO, PIGW, PGAP2, or PGAP3 genes cause Mabry syndrome, also known as hyperphosphatasia with mental retardation syndrome. The prevalence of Mabry syndrome is currently unknown; however, more than 20 cases have been reported in the scientific literature.

References:
1. OMIM. Hyperphosphatasia with Mental Retardation syndromes.

Genes

PGAP2, PGAP3, PIGO, PIGV, PIGW, PIGY

Indications

This test is indicated for:

- Individuals with a clinical or suspected diagnosis of Mabry syndrome.

Methodology

Next Generation Sequencing: In-solution hybridization of all coding exons is performed on the patient's genomic DNA. Although some deep intronic regions may also be analyzed, this assay is not meant to interrogate most promoter regions, deep intronic regions, or other regulatory elements, and does not detect single or multi-exon deletions or duplications. Direct sequencing of the captured regions is performed using next generation sequencing. The patient's gene sequences are then compared to a standard reference sequence. Potentially causative variants and areas of low coverage are Sanger-sequenced. Sequence variations are classified as pathogenic, likely pathogenic, benign, likely benign, or variants of unknown significance. Variants of unknown significance may require further studies of the patient and/or family members.

Detection

Next Generation Sequencing: Clinical Sensitivity: Unknown. Mutations in the promoter region, some mutations in the introns and other regulatory element mutations cannot be detected by this analysis. Large deletions/duplications will not be detected by this analysis. Results of molecular analysis should be interpreted in the context of the patient's clinical/biochemical phenotype.

Analytical Sensitivity: ~99%.

Specimen Requirements

Submit only 1 of the following specimen types

Type: Saliva

Specimen Requirements:
Oragene™ Saliva Collection Kit
Oragene™ Saliva Collection Kit used according to manufacturer instructions. Please contact EGL for a Saliva Collection Kit for patients that cannot provide a blood sample.

Specimen Collection and Shipping:
Please do not refrigerate or freeze saliva sample. Please store and ship at room temperature.

Type: Whole Blood (EDTA)

Specimen Requirements:
EDTA (Purple Top)
Infants and Young Children (2 years of age to 10 years old: 3-5 ml

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Older Children & Adults: 5-10 ml
Autopsy: 2-3 ml unclotted cord or cardiac blood

Specimen Collection and Shipping:
Ship sample at room temperature for receipt at EGL within 24 hours of collection. Do not refrigerate or freeze.

Type: DNA, Isolated

Specimen Requirements:
- Microtainer
- 8µg
- Isolation using the Perkin Elmer™Chemagen™ Chemagen™ Automated Extraction method or Qiagen™ Puregene kit for DNA extraction is recommended.

Specimen Collection and Shipping:
Refrigerate until time of shipment in 100 ng/µL in TE buffer. Ship sample at room temperature with overnight delivery.