Maturity Onset Diabetes of the Young (MODY): Deletion/Duplication Panel

**Test Code:**  MD220  
**Turnaround time:** 2 weeks  
**CPT Codes:** 81228 x1

### Condition Description

Maturity-onset diabetes of the young (MODY) is defined by the clinical features of early-onset Type 2 (non-insulin-dependent) diabetes and an autosomal dominant inheritance. Pathogenic variants in four genes have been shown to cause MODY, with each having a defined clinical presentation. In the European Caucasian population, molecular analysis of these four genes is useful in confirming the clinical diagnosis of MODY and the prediction of the future clinical course.

**References:**

### Genes

GCK, HNF1A, HNF4A, PDX1

### Indications

This test is indicated for individuals with:
- Confirmation of a clinical diagnosis of maturity-onset diabetes of the young (MODY).
- Carrier testing in adults with a family history of hereditary maturity-onset diabetes of the young (MODY).

### Methodology

**Deletion/Duplication Analysis:** DNA isolated from peripheral blood is hybridized to a gene-targeted CGH array to detect deletions and duplications. The targeted CGH array has overlapping probes that cover the entire genomic region. Please note that a “backbone” of probes across the entire genome are included on the array for analytical and quality control purposes. Rarely, off-target copy number variants causative of disease may be identified that may or may not be related to the patient’s phenotype. Only known pathogenic off-target copy number variants will be reported. Off-target copy number variants of unknown clinical significance will not be reported.

### Detection

**Deletion/Duplication Analysis:** Detection is limited to duplications and deletions. The CGH array will not detect point or intronic mutations. Results of molecular analysis must be interpreted in the context of the patient's clinical and/or biochemical phenotype.

### Specimen Requirements

Submit only 1 of the following specimen types

**Type: Whole Blood**

Specimen Requirements:
- In EDTA (purple top) tube: Infants (2 years): 3-5 ml  
  Older Children & Adults: 5-10 ml

Specimen Collection and Shipping: Ship sample at room temperature with overnight delivery.

**Type: Isolated DNA**

Specimen Requirements:
- In microtainer: 10 ug
  Isolation using the Qiagen™ Puregene kit for DNA extraction is recommended.

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

### Related Tests

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- Maturity Onset Diabetes of the Young (MODY): Sequencing Panel