## Inherited Metabolic Disorders: Deletion/Duplication Panel

**Test Code:** MD310  
**Turnaround time:** 2 weeks  
**CPT Codes:** 81404 x1, 81405 x1, 81228 x1, 81401 x1

### Condition Description

Inherited metabolic disorders refer to diseases caused by defects in genes that are involved in the body’s metabolism. These usually involve the production, conversion, or use of energy. Traditionally, inherited metabolic conditions were broadly classified as disorders of carbohydrate metabolism, amino acid metabolism, organic acid metabolism, or lysosomal storage diseases. This test analyses genes involved in complex metabolic processes in the body including but not limited to the above four categories.

**Reference:** OMIM.

### Genes

- ACAD9
- ACADL
- ACADM
- ACADS
- ACADVL
- ACSF3
- AGA
- AGL
- ARSA
- ARSB
- ASL
- ASS1
- ATPAF2
- AUH
- BCKDHA
- BCKDHB
- CD320
- CLN3
- CLN5
- CLN6
- CLN8
- CPS1
- CPT1A
- CPT2
- DBT
- DLD
- ENO3
- ETFAB
- ETFB
- ETFDH
- G6PC
- GAA
- GALC
- GALNS
- GBE1
- GLA
- GLB1
- GMI2
- GNPTAB
- GYS1
- GYS2
- HADHA
- HADHB
- HGSNAT
- HLC5
- HMGCL
- HMGCS2
- HYAL1
- IDS
- IDUA
- IVD
- LIPA
- ATP8D1
- MAN2B1
- MANBA
- MCCC1
- MCCC2
- MCEE
- MCOLN1
- MFSD8
- MLYCD
- MMAA
- MMAB
- MMACHC
- MMADHC
- MMUT
- MTR
- MTRR
- NAGA
- NAGLU
- NAGS
- NEU1
- NPC1
- NPC2
- OPA3
- OTC
- PC
- PCCA
- PCCB
- PFKM
- POLG
- PYGL
- PYGM
- SERAC1
- SGSH
- SLC17A5
- SLC22A5
- SLC25A13
- SLC25A15
- SLC25A20
- SLC37A4
- SLC7A7
- SMPD1
- SUCLG1
- SUMF1
- TAZ
- TMEM70
- TPP1

### Indications

This test is indicated for:

- Confirmation of a clinical diagnosis of inherited metabolic disorders.

### 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.

### 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: DNA, Isolated

**Specimen Requirements:**

- Microtainer
- 3µg

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.

#### Type: Whole Blood (EDTA)

**Specimen Requirements:**

- EDTA (Purple Top)

Infants and Young Children (2 years of age to 10 years old): 3-5 ml
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 72 hours of collection. Do not freeze.

### Related Tests

- Inherited Metabolic Disorders: Sequencing Panel