### Retinitis Pigmentosa: Deletion/Duplication Panel

**Test Code:** MD233  
**Turnaround time:** 2 weeks  
**CPT Codes:** 81228 x1, 81479 x1

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#### Condition Description

Retinitis pigmentosa (RP) is a heterogeneous group of inherited diseases that commonly results in a progressive retinal degeneration. Over 90 forms of RP have been identified. RP can be syndromic or nonsyndromic and can be inherited in an autosomal dominant, autosomal recessive, or X-linked manner. RP is characterized by progressive visual field loss, night blindness, and abnormal or nonrecordable electroretinogram (ERG). Fundus changes include pigment deposition in the retina along the blood vessels with optic nerve pallor and arteriolar narrowing in early stages advancing to characteristic "bone spicule" pigmentedary pattern in later stages. Please note that **RPGR orf15 analysis is not included in this test.**


**References:**
- OMIM  
- GeneReviews

#### Genes

**ABCA4, AIP1, BBS1, BEST1, C10orf5, C8orf37, CA4, CERKL, CHM, CLN3, CLRN1, CNGA1, CNGB1, CRB1, CRX, CYP4V2, DHDDS, EYS, FAM161A, FLVCR1, FSCN2, GUCAlB, GUCY2D, IDH3B, IMPDH1, IMPG2, KLHL7, LRAT, MAK, MERTK, NR2E3, NRL, QD1, PCARE, PDE6A, PDE6B, PDE6G, PRCD, PROM1, PRPF3, PRPF31, PRPF6, PRPF8, PRPH2, RBP3, RBP4, RDH12, RGR, RHQ, RLBP1, ROM1, RP1, RP2, RP3, RPE65, RPGR, RPGRIP1, SAG, SEMA4A, SNRNP200, SPATA7, TOPORS, TTC8, TULP1, USH2A, ZNF513**

#### Indications

This test is indicated for:

- Confirmation of a clinical diagnosis of retinitis pigmentosa.  
- Carrier testing in adults with a family history of retinitis pigmentosa.

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

#### Specimen Requirements

**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.

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

**Special Instructions**

Please include fundus photographs, electroretinogram (ERG) findings, visual field findings, and visual acuity, if available, for expert review and clinical correlation with test results.

**Related Tests**

- Eye Disorders: Comprehensive Sequencing and Deletion/Duplication Panels.
- Retinitis Pigmentosa: Sequencing Panel.