Single-site testing (includes known familial mutations) (per variant)

Test Code	D0600
Test Summary	This test provides analysis and interpretation of a single variant or known familial mutation
Turn-Around-Time (TAT)*	3 - 5 weeks
Acceptable Sample Types	Whole Blood (EDTA) (Preferred sample type) DNA, Isolated Dried Blood Spots Saliva
Acceptable Billing Types	Self (patient) Payment Institutional Billing Commercial Insurance

Indications for Testing

- Known disease causing variant in the family
- Determination of inheritance of a known variant
- Family linkage studies

Test Description

This test involves targeted sequencing, analysis, and interpretation of a single variant or known familial mutation by an appropriate technology (ex. Sanger sequencing).

Test Methods and Limitations

Only amplification of the regions of the gene in which the targeted variant is located is performed; other regions of the gene are not analyzed. The products are sequenced in the forward and reverse directions. Nucleotide numbering is based on GenBank accession number; nucleotide 1 corresponds to the A of the start codon ATG. This analysis cannot detect single and multi-exon deletions and duplications, or variants in regions not analyzed. This assay is not designed to detect mosaicism; possible cases of mosaicism may be investigated at the discretion of the laboratory director. Variants are evaluated by their frequency as reported in public databases such as the Genome Aggregation Database (gnomAD), Human Gene Mutation Database (HGMD), and ClinVar. Variants that have a frequency greater than expected given the prevalence of disease are considered to be benign. In some cases, due to the complexity of the sequence, not all variants in the flanking intronic regions are able to be analyzed. The interpretation of variants is based on our current understanding of the genes involved. This understanding may change over time as more information becomes available.

Detailed Sample Requirements

Whole Blood (EDTA) (Preferred sample type)

Collection Container(s):

EDTA (purple top)

Collection:

Infants (< 2-years): 2 to 3 mL; Children (>2-years): 3 to 5 mL; Older children and adults: Minimum 5mL. The blood tube should be inverted several times immediately after blood collection to prevent coagulation.

Sample Condition: Store at ambient temperature. Do not refrigerate or freeze.
Shipping: Ship overnight at ambient temperature ensuring receipt within 5-days of collection.

SPECIAL INSTRUCTIONS: Clotted or hemolyzed samples are not accepted.

DNA, Isolated

Collection:

Required DNA Quantity by Test Type*:

- **Next Generation Sequencing (NGS):** Send >1000 ng total gDNA @ >15 ng/?L. Please ship samples in 10mM Tris. Do not use EDTA.
- **Sanger Sequencing:** Send >500 ng total gDNA @ >15 ng/?L (varies by the size of the gene and the variants requested).
- **Non-Sanger Sequencing Tests:** Send >500 ng total gDNA @ >15 ng/?L.

Sample Condition: * Required DNA Quality: High molecular weight DNA (>12kb). A260/A280 reading should be ? 1.8. A260/230 a ratio range of 1.8 to 2.2. Contact the laboratory for specific amounts if total ng cannot be met.
Shipping: Ship overnight at ambient temperature.

SPECIAL INSTRUCTIONS:

- **Research Laboratories:** DNA extracted in research laboratories is not acceptable. Only under exceptional circumstances (e.g., proband not available) will DNA extracted in a research laboratory be accepted for clinical testing. Additional testing (e.g., of other family members) may be required to confirm results.
- **Laboratories outside the United States:** Non-US laboratories are not subject to CLIA regulations and will be reviewed on a case-by-case basis. Please call to speak with a laboratory genetic counselor prior to submitting a DNA sample from any non-CLIA certified laboratory.
- **Special Notes**: If extracted DNA is submitted, information regarding the method used for extraction should be sent along with the sample.

Dried Blood Spots

Saliva

Collection Container(s):

Oragene™ Saliva Collection Kit or ORAcollect-Dx kit

Collection:

Collect saliva on an Oragene™ Saliva Collection Kit ORAcollect-Dx kit according to the manufacturer's instructions.

Sample Condition: Store at ambient temperature. Do not refrigerate or freeze.
Shipping: Ship overnight at ambient temperature.

SPECIAL INSTRUCTIONS: Please contact PerkinElmer to request the saliva collection kit for patients that cannot provide a blood sample as whole blood is the preferred sample.