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Client: Example Client ABC123
123 Test Drive
Salt Lake City, UT 84108
UNITED STATES

Physician: Doctor, Example

Patient: Patient, Example

DOB	12/4/1990
Gender:	Female
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	01/01/2017 12:34

Hereditary Paraganglioma-Pheochromocytoma (SDHB) Sequencing and Deletion/Duplication

ARUP test code 2007108

HPGL-PCC (SDHB) Seq, DelDup Specimen	Whole Blood
HPGL-PCC (SDHB) Seq, DelDup Interp	Negative

TEST PERFORMED - 2007108
TEST DESCRIPTION - Hereditary Paraganglioma-Pheochromocytoma (SDHB) Sequencing and Deletion/Duplication
INDICATION FOR TEST - Predictive Testing

RESULT
No pathogenic variants were detected in the SDHB gene.

INTERPRETATION
According to information provided to ARUP, this patient has a family history of pheochromocytoma. No pathogenic variants were detected in the SDHB gene by sequencing all coding regions and intron-exon boundaries or by deletion/duplication analysis. This result decreases the probability of, but does not exclude, a diagnosis of Hereditary Paraganglioma-Pheochromocytoma syndrome. Please refer to the background information included in this report for the clinical sensitivity and limitations of this test.

RECOMMENDATIONS
Genetic consultation is recommended. Medical screening and management should rely on clinical findings and family history. For optimal interpretation of this negative result, determination of the causative familial variant in an affected family member is necessary. However, if no affected family member is available and suspicion for a hereditary endocrine cancer syndrome remains, consideration should be given to ordering the Endocrine Hereditary Cancer Gene Panel (ARUP test code 2010193).

COMMENTS
Reference Sequence: GenBank # NM_003000.2 (SDHB)
Nucleotide numbering begins at the "A" of the ATG initiation codon.
Benign variants are not included in this report but are available upon request.

This result has been reviewed and approved by Steven Steinberg, Ph.D.

H – high L – low * – abnormal C – critical

BACKGROUND INFORMATION: Hereditary Paraganglioma-Pheochromocytoma (SDHB) Sequencing and Deletion/Duplication

CHARACTERISTICS: Hereditary paraganglioma-pheochromocytoma (PGL/PCC) syndromes are characterized by paragangliomas (neuroendocrine tumors of the autonomic nervous system) and pheochromocytomas (paragangliomas of the adrenal medulla). Pathogenic germline mutations in a number of genes, including SDHB, predispose to paraganglioma and pheochromocytoma with risk of malignant transformation.
INCIDENCE: About 1 in 300,000 per year.
INHERITANCE: Autosomal dominant.
CAUSE: Pathogenic succinate dehydrogenase, subunits B, C, and D (SDHB, SDHC, and SDHD) gene mutations. Mutations in other genes, including TMEM127, EGLN1, MAX, SDHA, and SDHAF2, may also be causative.
CLINICAL SENSITIVITY: 7-11 percent.
METHODOLOGY: Bidirectional sequencing of all coding regions and intron-exon boundaries of the SDHB gene; Multiplex Ligation-dependent Probe Amplification (MLPA) to detect large SDHB deletions /duplications.
ANALYTICAL SENSITIVITY AND SPECIFICITY: Sequencing: 99 percent. MLPA: 90 and 99 percent, respectively.
LIMITATIONS: Diagnostic errors can occur due to rare sequence variations. Regulatory region mutations and deep intronic mutations will not be detected. The breakpoints of large deletions/duplications will not be determined. Mutations in genes other than SDHB are not evaluated.

Test developed and characteristics determined by ARUP Laboratories. See Compliance Statement C: aruplab.com/CS

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
HPGL-PCC (SDHB) Seq, DelDup Specimen	17-063-401100	3/2/2017 12:15:00 PM	3/4/2017 1:06:47 PM	3/15/2017 3:19:52 PM
HPGL-PCC (SDHB) Seq, DelDup Interp	17-063-401100	3/2/2017 12:15:00 PM	3/4/2017 1:06:47 PM	3/15/2017 3:19:52 PM

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