ARUP LABORATORIES
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Tracy I. George, MD, Chief Medical Officer

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

Physician: Doctor, Example

Patient: Patient, Example

DOB	12/31/2010
Gender:	Male
Patient Identifiers:	01234567890ABCD, 012345
Visit Number (FIN):	01234567890ABCD
Collection Date:	01/01/2017 12:34

RET Gene Rearrangements by FISH

ARUP test code 3001312

RET FISH Result

Positive

Controls were run and performed as expected.
This result has been reviewed and approved by Benjamin L. Witt, M.D.
2000 Circle of Hope, RM 3100
Salt Lake City, UT 84112

INTERPRETIVE INFORMATION: RET Gene Rearrangements, FISH

Fluorescence in situ hybridization (FISH) analysis was performed on a section from a paraffin-embedded tissue block using differentially labeled fluorescent probes targeting the upstream (5') and downstream (3') flanking regions of the RET gene (Abbott Molecular). Cells were evaluated from regions of tumor identified on histopathologic review of a matching hematoxylin- and eosin-stained section. Controls performed appropriately.

This test is designed to detect rearrangements involving the RET gene, but it does not identify a specific partner gene. An abnormal signal pattern seen in 15 percent or more of the evaluated tumor cells is considered a positive result. Based on the assay performance during test validation, the test is expected to detect 100 percent of RET rearrangements in patients with RET-rearranged carcinomas, except for rare instances of cryptic rearrangements. Assay range and limit of detection were generated using normal and known positive cases respectively.

RET rearrangements occur in approximately 1-2 percent of lung adenocarcinomas and 10-20 percent of papillary thyroid carcinomas. Detection of RET rearrangements may be useful for diagnostic classification of disease and for predicting tumor response to targeted therapy.

References:
1. Takeuchi K et al. RET, ROS1 and ALK fusions in lung cancer. Nat Med. 18(3):378-381, 2012.
2. Wang R et al. RET fusions define a unique molecular and clinicopathologic subtype of non-small-cell lung cancer. J Clin Oncol. 30(35):4352-9, 2012.
3. Nikiforov Y. Molecular diagnostics of thyroid tumors. Archives of pathology & laboratory medicine. 135(5):569-77, 2011.

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

RET FISH Reference Number

SP1234

H=High, L=Low, *=Abnormal, C=Critical

RET FISH Source	Lung
Total Cell Count	100
Scoring Method	Manual

VERIFIED/REPORTED DATES

Procedure	Accession	Collected	Received	Verified/Reported
RET FISH Result	20-136-140253	5/15/2020 8:00:00 AM	8/17/2020 5:30:33 PM	8/17/2020 5:51:00 PM
RET FISH Reference Number	20-136-140253	5/15/2020 8:00:00 AM	8/17/2020 5:30:33 PM	8/17/2020 5:51:00 PM
RET FISH Source	20-136-140253	5/15/2020 8:00:00 AM	8/17/2020 5:30:33 PM	8/17/2020 5:51:00 PM
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Scoring Method	20-136-140253	5/15/2020 8:00:00 AM	8/17/2020 5:30:33 PM	8/17/2020 5:51:00 PM

END OF CHART