Indiana University Health Molecular Pathology Laboratory

BRAF V600E QL Mutation Detection

CERNER ORDERABLE
Using IU Health Pathology requisition; Order through CoPath please call 317.491.6417

CPT CODE
81210

CLINICAL UTILITY
Approximately 30 to 80% of papillary thyroid carcinoma (PTC) cases and up to 50% of anaplastic thyroid carcinoma (ATC) cases have a BRAF mutation. BRAF somatic mutations are also reported in 60—80% of malignant melanomas and <15% colorectal and ovarian cancers. The V600E mutation accounts for up to 98% of the BRAF mutations identified in these tumors. For patients undergoing treatment for colorectal cancer, testing for BRAF in KRAS negative patients should be considered prior to use of anti-EGFR antibodies. Therapies are available that selectively target the BRAF V600E mutation including Vermurafenib. BRAF V600E mutation was also reported in hairy cell leukemia, Langerhans cell histiocytosis, metanephric adenoma, papillary thyroid carcinoma, pleomorphic xanthoastrocytoma and other conditions. Identification of BRAF mutations may be useful as adjunct diagnostic aid. [1]

METHODOLOGY
Real Time PCR utilizing Scorpions® and ARMS® (Allele Refractory Mutation System) technologies

SPECIMENS
Preferable primary tumor

- FFPE tissue (Formalin fixative only)
  For tissue resection: 1 H&E and 8 unstained slides
  For a biopsy: 1 section on 1 slide for H&E plus 6 unstained slides with 3 sections per slide

SPECIMEN STABILITY and SHIPPING

- Transport/Storage of slides at room temperature.

CAUSES FOR REJECTION
Excess necrosis for slides. Inadequate percentage tumor; poor DNA quality.

SPECIFICITY
BRAF Mutation Analysis testing extensive mutation coverage which includes V600E/Ec, V600D, V600K, and V600R.
The V600E/Ec assay detects both V600E and V600Ec mutations but does not distinguish between them.

ASSAY RANGE

- BRAF mutation not detected.
- BRAF mutation detected. Results will specify which BRAF mutation was found.

TURNAROUND TIME 7-10 Working days

1. Reference information can be found in the Indiana University Health Molecular Assay Procedures.