EGFRvIII mutation in Gliomas

Brain Tumors

The EGFRvIII is an oncogene generated by an in-frame genomic deletion that defines a prognostically distinct subgroup of glioblastomas associated with favorable response to tyrosine kinase inhibitor therapy. Detection of this mutation in clinical samples, therefore, is warranted. This is challenged by the unavailability of frozen tumor tissues, especially in a regional hospital setting, and lack of a reliable EGFRvIII antibody for immunohistochemical detection. We have developed a new, simple RT-PCR based assay for detection of EGFRvIII in formalin fixed, paraffin embedded (FFPE) tissues.

Our assay provides a simple, accurate detection of EGFRvIII mutation from clinical FFPE glioma samples. This assay may aid in stratifying patients with glioblastomas to predict response to EGFR kinase inhibitor therapy and further help in individualized targeted therapy strategies.

Testing Method: RNA is extracted from formalin fixed paraffin embedded tissue or fresh frozen tissue containing more than 50% tumor proportion. RNA quality and integrity is assessed by RT-PCR for B-actin transcripts. PCR is performed using appropriate primers and products are run on 2.5% agarose gel for detection.**Turnaround Time**: 3-5 business days

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Sample requirements: The presence of adequate tumor in the material submitted for analysis should be confirmed by a surgical pathologist. A section from archival paraffin material or frozen surgical biopsies should be confirmed to contain >50% tumor by a surgical pathologist. If the submitted material for analysis contains less than 50% of tumor, areas of predominant tumor will be macrodissected using a scalpel to enrich neoplastic cells.

- Formalin fixed, paraffin-embedded tissue
- 5-6 tissue sections (please include H&E slide and a copy of pathology report)
- Fresh frozen tissue

CPT Codes: 81403

Ship Specimens to:

Henry Ford Center for Precision Diagnostics
Henry Ford Hospital
Clinic Building, K6, Core Lab E-655
2799 W. Grand Blvd.
Detroit, MI 48202