| PATIENT | REPORT DATE | BOOKING ID |
|---|---|---|
| Naresh Malhotra | 06 March 2020 | 012003050339 |

## Test Description

*NRAS* mutation test is an in vitro diagnostic test for the qualitative detection of mutations in codons 12, 13, 59, 61, 117 and 146 of *NRAS* oncogene.

## Clinician

Clinician Name: Dr Bhuvan Chugh
Medical Facility: Medanta Hospital
Pathologist: Not Provided

## Patient Demographic

**Name**: Naresh Malhotra
**Sex**: Male
**Date of Birth/Age**: 61 Years
**Disease**: Colorectal liver metastasis

## Specimen

**Site**: Gall Bladder
**Sample Type**: FFPE block B 11630/19
**Date of Collection**: 05-03-2020
**Date of Booking**: 05-03-2020

# *NRAS* Mutation Analysis

## Result

**Mutation Detected in *NRAS* codon 61**

## GENOMIC FINDINGS

Mutation: Q61H
Protein: p.Gln61His
Nucleotide Change: c.183A>C ; c.183A>T

## INTERPRETATION

**Mutation detected**

*Q61H* is a hotspot mutation that lies within a GTP-binding region of the Nras protein (UniProt.org). *Q61H* confers a loss of function to Nras protein as indicated by increased GTP-bound Nras, which leads to increased downstream pathway activation and cell proliferation in cell culture.

## METHODOLOGY

The NRAS Mutation Test, performed on the Biocartis Idylla™ system, is an *in vitro* diagnostic test for the qualitative detection of 18 mutations (G12C, G12S, G12D, G12A, G12V, G13D, G13V, G13R, A59T, Q61H/Q61H, Q61K/R/L, K117N/K117N and A146T/V) in codons 12, 13, 59, 61, 117 and 146 of the *NRAS* gene. Formalin-fixed paraffin-embedded (FFPE) human cancer tissue is lysed liberate DNA for subsequent real-time PCR amplification using allele specific primers. Two sample processing controls (SPC) are amplified simultaneously i.e. (1) a conserved region of the NRAS gene (referred to as NRAS-Total) and (2) a conserved region of the BRAF gene. The presence of a mutant genotype is determined by calculating the difference between the *NRAS* Sample Processing Control Cq and the Cq obtained for the *NRAS* mutant signal(s).

The analytic sensitivity of this assay has been determined at < or = 5%

## REFERENCES

1. Allegra et al. J Clin Oncol (2016) 34:179-85
2. Boleij et al. BMC Cancer (2016) 16:825.

March 06, 2019

Dr Gulshan Yadav, MD, Consultant Pathology — Date