MAYO CLINIC LABORATORIES

1-800-533-1710

BRAFD

BRAF V600E/V600K Somatic Mutation Analysis, Tumor

Patient ID	Patient Name		Birth Date	Sex	Age
SA00182122	BRAFDABNORMAL, ATLAS		2005-06-06	M	21
Order Number	**Client Order Number**	**Ordering Physician**	**Report Notes**		
SA00182122	SA00182122	CLIENT,CLIENT			
Account Information		**Collected**			
C7028846 DLMP Rochester		05 Nov 2026 00:00			

BRAF V600 Somatic Mutation Analysis, Tumor

Result Summary MCR

POSITIVE

Result MCR

Provided diagnosis: melanoma involving lymph node, right axillary

BRAF status: Mutant (V600K)
Mutant copies detected: 9025
Variant allele fraction: 18%

Interpretation MCR

ASSOCIATIONS BETWEEN BRAF MUTATIONS AND MELANOMA

Approximately 40% of patients with melanoma have a somatic mutation in the BRAF gene (1). BRAF mutations, primarily those occurring at codon 600, result in constitutive activation of the RAS/MAPK signaling pathway (2). The p.V600K mutation accounts for approximately 5–12% of BRAF mutations occurring at codon 600 (1–3).

Clinically approved targeted therapy is available for patients with unresectable or metastatic melanoma with BRAF V600 mutations (4).

REFERENCES

1. cancer.sanger.ac.uk/cancergenome/projects/cosmic/
2. Nature. 2002 Jun 27;417(6892):949–54 (PMID 12068308)
3. J Transl Med. 2010 Jul 14;8:67 (PMID 20630094)
4. https://www.fda.gov/drugs

Specimen MCR

Tissue, Tumor

Tissue ID MCR

874

Method MCR

Microscopic examination was performed by a pathologist to identify areas of tumor for enrichment by macrodissection. Tumor DNA was isolated and evaluated for the presence of BRAF V600E/K mutations using digital droplet PCR analysis.

Disclaimer [1] MCR

This assay is designed to detect BRAF V600E (c.1799T>A) and V600K (c.1798_1799delGTinsAA) mutations in tissue specimens with a tumor purity >5%. Other variants at or adjacent to codon 600 may yield indeterminate results due to probe cross-hybridization. Additionally, rare polymorphisms in the target region for this assay could lead to false-negative or false-positive results.

The validated Limit of Detection (LOD) and Limit of Quantitation (LOQ) thresholds for this assay are as follows:

Threshold	V600E	V600K
LOD	5 copies/reaction	4 copies/reaction
LOQ	10 copies/reaction	9 copies/reaction

Positive results between the LOD and LOQ are associated with a coefficient of variation (CV) >35%.

Released By MCR

Katherine B. Geiersbach, M.D.

Received: 05 Nov 2026 08:12 **Reported:** 05 Nov 2026 10:08

Laboratory Notes

[1] This test was developed and its performance characteristics were determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the U.S. Food and Drug Administration.

Performing Site Legend

Code	Laboratory	Address	Lab Director	CLIA Certificate
MCR	Mayo Clinic Laboratories - Rochester Main Campus	200 First Street SW, Rochester, MN 55905	Nikola Baumann Ph.D.	24D0404292

Test Environment ETBV Template