PRODUCT INFORMATION

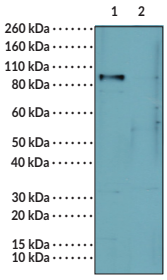
B-RAF^{V600E} Monoclonal Antibody (Clone RM8)

Item No. 32188

Overview and Properties

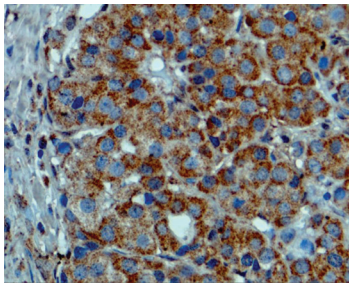
Contents:	This vial contains 100 µg of protein A-affinity purified monoclonal antibody.
Synonyms:	B-RAF Proto-oncogene, Proto-oncogene B-RAF^{V600E}, RAFB1, V-Raf Murine Sarcoma Viral Oncogene Homolog B
Immunogen:	Peptide corresponding to B-RAF^{V600E}
Cross Reactivity:	(+) B-RAF^{V600E}; (-) Wild-type B-RAF
Species Reactivity:	(+) Human
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol, 1% BSA, and 0.09% sodium azide
Concentration:	1 mg/ml
Clone:	RM8
Host:	Rabbit
Isotype:	IgG
Applications:	ELISA, Immunocytochemistry (ICC), Immunohistochemistry (IHC), and Western blot (WB); the recommended starting concentration for ELISA and WB is 0.5-2 µg/ml and 0.5-5 µg/ml for ICC and IHC. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images

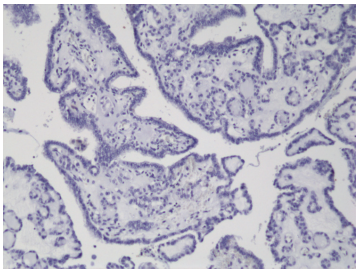


Lane 1: B-RAF^{V600E}
Lane 2: Wild-type B-RAF

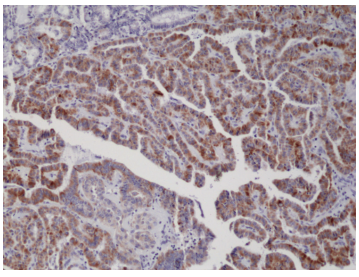
WB analysis of cell lysates prepared from cell lines expressing endogenous mutant B-RAF^{V600E} or wild-type B-RAF protein.



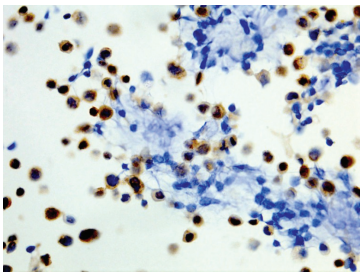
Immunohistochemical staining of formalin-fixed and paraffin-embedded melanoma tissue sections.



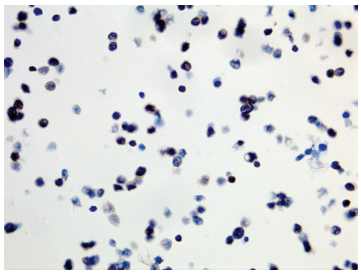
Immunohistochemical staining of formalin-fixed and paraffin-embedded thyroid carcinoma tissue. Allele-specific PCR validated to be negative for B-RAF^{V600E}.



Immunohistochemical staining of formalin-fixed and paraffin-embedded thyroid carcinoma tissue. Allele-specific PCR validated to be positive for B-RAF^{V600E}.



Immunohistochemical staining of formalin-fixed and paraffin-embedded human cell line sections. WiDr cells (400X, positive).



Immunohistochemical staining of formalin-fixed and paraffin-embedded human cell line sections. SW40 cells (400X, negative).

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PRODUCT INFORMATION

Description

Rapidly accelerated fibrosarcoma (Raf) kinase is a serine/threonine kinase and component of the MAPK/ERK signaling pathway.[1,2] Upon activation by upstream RAS signaling, Raf dimerizes and phosphorylates MEK1 leading to activation of transcription factors for cell growth, proliferation, and survival.[2] Raf exists as three isoforms, A-RAF, B-RAF, and C-RAF, that all consist of three conserved regions (CRs) with domain-specific functions.[1] CR1 contains a cysteine-rich domain and a RAS-binding domain, CR2 is essential for negative regulation through inhibition of phosphorylation sites, and CR3 is the kinase domain. B-RAF is the most prominent isoform, expressed in most tissues, and localized to the cytosol. A single amino acid substitution of glutamic acid for valine at codon 600 in the kinase domain (B-RAF^{V600E}) is an activating mutation that is found in melanoma and non-small cell lung cancer (NSCLC), as well as breast, thyroid, colorectal, and ovarian cancers.[1,2] B-RAF^{V600E} is associated with early-stage ovarian cancer, as well as with increased risk of brain metastasis and shorter survival in melanoma.[1,3] Cayman's B-RAF^{V600E} Monoclonal Antibody (Clone RM8) can be used for ELISA, immunocytochemistry (ICC), immunohistochemistry (IHC), and Western blot (WB) applications.

References

1. Chavda, J. and Bhatt, H. Systemic review on B-Raf^{V600E} mutation as potential therapeutic target for the treatment of cancer. *Eur. J. Med. Chem.* **206**, 112675 (2020).
2. Frisone, D., Friedlaender, A., Malapelle, U., *et al.* A *BRAF* new world. *Crit. Rev. Oncol. Hematol.* **152**, 103008 (2020).
3. Patel, H., Yacoub, N., Mishra, R., *et al.* Current advances in the treatment of BRAF-mutant melanoma. *Cancers (Basel)* **12(2)**, 482 (2020).

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