BRAF V600E antibody clone HA01

Product Information

Catalog Number:	**DIA-HA01**
Quantity:	1ml
Clone:	HA01
Isotype:	Mouse IgG2b
Specificity:	BRAF V600E point mutation, no cross reactivity with $BRAF_{wt}$
Species reactivity:	Human
Immunogen:	Synthetic peptide, proprietary.
Positive Control:	BRAF V600E positive Melanoma
Visualization:	Cytoplasmic
Physical state:	Lyophilized powder
Reconstitution:	Restore lyophilizate to 1ml with sterile distilled water by gentle shaking for 10 minutes
Presentation:	20mM TRIS (pH7), 1% BSA, 0.025% Proclin 300
Applications:	IHC-P, WB
Recommended dilution:	IHC-P 1:100-1:200 WB: 1:1000

Reactivity

Clone HA01 reacts specifically with the BRAF V600E point mutation in tissue sections from routine formalin-fixed paraffin-embedded human tumors (IHC FFPE). This antibody has been validated for the identification of BRAF V600E positive cells in diverse human tumor tissues with an additional focus on neuropathological tumor tissues selected according to WHO guidelines.

Background

BRAF V600E is a well-established oncogenic driver mutation with broad clinical implications. Since first studies of BRAF mutations in cancers 2002 (1), BRAF V600E has evolved into a critical diagnostic, prognostic, and predictive tumor marker.

BRAF has been shown to be mutated in various types of cancers including malignant melanoma (~50%), papillary thyroid cancer (~45%), colorectal cancers (~10%) and has also been identified in ovarian, breast, and lung cancers (1,2,3). Several primary CNS neoplasms harbor a BRAF V600E mutation, e.g. several pediatric low-grade gliomas (4,5): ~60% of pleomorphic xanthoastrocytomas (PXA), 20–60% of gangliogliomas (GG), and roughly 10% of pilocytic astrocytomas.

Physiologically, BRAF acts as a serine-threonine protein kinase and is a member of the RAF kinase family playing an important role in the RAS-RAF-MAPK signaling pathway, which regulates cell survival, proliferation and differentiation (6). 90% of oncogenic mutations in the BRAF gene are a single V600E substitution within the kinase domain and result in sustained kinase activity, constitutively activating the MAPK signaling pathway which leads to carcinogenesis (7,8).

Instructions for Use

Immunohistochemical (IHC) staining of standard formalin-fixed paraffin sections: Heat induced epitope retrieval (HIER) is required. Different detection techniques can be used: Indirect immunoenzyme labeling with a secondary antibody conjugate, biotin/(strept)avidin-based detection, soluble enzyme immune complex or polymer-based detection. To detect antibody, follow the instructions provided with the particular visualization system. The antibody is suited for IHC staining using automated platforms (Ventana: CC1 pretreatment / Optiview detection). Use the antibody at 1:100 -1:200 dilution.

Storage

Store lyophilizate at 2-8°C. For long time storage freeze at -20°C (antibody is stable for at least one year). As reconstituted liquid store at 2-8°C short term. For long term storage aliquot and freeze at -20°C or -80°C. Avoid repeated freeze / thaw cycles.

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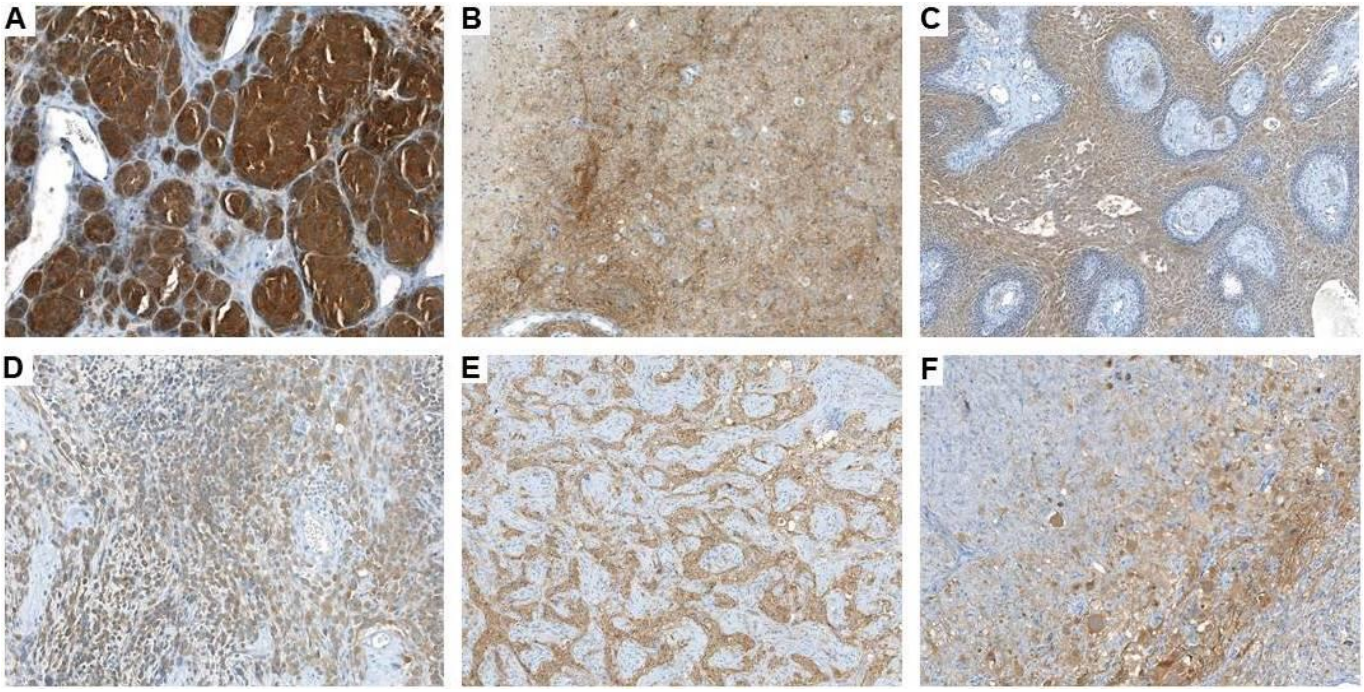
Figures

Immunohistochemistry of BRAF V600E clone HA01 in formalin-fixed paraffin-embedded human tumor tissue specimen (Pictures courtesy of Prof. Dr. med. Markus Glatzel, Institute of Neuropathology, University Medical Center, Hamburg-Eppendorf, 20246 Hamburg, Germany).
Protocol: Ventana standard, pretreatment CC1, detection OptiView™, dilution 1:100
Tissue specimen: **A** Malignant Melanoma; **B-F** Glioma selected according to WHO CNS classification guidelines:
B Ganglioglioma, **C** Papillary Craniopharyngioma, **D** Pleomorphic Xanthoastrocytoma, **E** Pilocytic Astrocytoma, **F** Polymorphous low grade neuroepithelial tumor of the young PLNTY



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4. Schindler G, Capper D et al. Analysis of BRAF V600E mutation in 1,320 nervous system tumors reveals high mutation frequencies in pleomorphic xanthoastrocytoma, ganglioglioma and extra-cerebellar pilocytic astrocytoma. *Acta Neuropathol.*121(3):397-405, 2011.
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7. Shinozaki E et al. Clinical significance of BRAF non-V600E mutations on the therapeutic effects of anti-EGFR monoclonal ab treatment in patients with pretreated metastatic colorectal cancer. *Br JCancer* 117(10):1450-1458, 2017
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Safety Note

The material contains 0.025% Proclin 300 as preservative. Although the quantity of Proclin 300 is very small, appropriate care should be taken when handling this material. Avoid skin and eye contact, inhalation, and ingestion.

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