# BRAF Antibody – Rabbit Polyclonal

## PRODUCT OVERVIEW

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| **Product Name** | BRAF, Polyclonal Antibody |
| **Full Product Name** | BRAF, Phosphorylated (Thr400) (Serine/Threonine-protein Kinase B-raf, Proto-oncogene B-Raf, p94, v-Raf Murine Sarcoma Viral Oncogene Homolog B1, BRAF1, RAFB1) (MaxLight 405) |
| **Product Gene Name** | anti-BRAF antibody |
| **Clonality** | Polyclonal |
| **Isotype** | IgG |
| **Host** | Rabbit |
| **Species Reactivity** | Human |
| **Form/Format** | Supplied as a liquid in PBS, pH 7.2. No preservative added. Labeled with MaxLight405. |
| **Purity/Purification** | Purified by Protein A Affinity Chromatography. |
| **Specificity** | Recognizes human BRAF when phosphorylated at Thr400. |
| **Preparation and Storage** | Store product at 4 degree C in the dark. DO NOT FREEZE! Stable at 4 degree C for 12 months after receipt as an undiluted liquid. Dilute required amount only prior to immediate use. Further dilutions can be made in assay buffer. Caution: MaxLight405 conjugates are sensitive to light. For maximum recovery of product, centrifuge the original vial prior to removing the cap. |
| **Molecular Weight** | 40.6 kDa (360aa) |
| **OMIM** | 114500 |
| **3D Structure** | ModBase 3D Structure for P15056 |
| **Immunogen** | Synthetic phosphopeptide corresponding to amino acid residues surrounding Thr400 of human BRAF (KLH). |
| **Conjugate** | MaxLight405 |
| **Antigen Modification** | Phosphorylated |
| **Note** | Preservative Free |
| **Product Categories/Family for anti-BRAF antibody** | Antibodies; Protein Kinases |
| **Applications Tested/Suitable for anti-BRAF antibody** | FLISA, Dot Blot (DB) |
| **Application Notes for anti-BRAF antibody** | FLISA: 1:1,000<br>Dot Blot: 1:500<br>Applications are based on unconjugated antibody. |
| **Related Product Information for anti-BRAF antibody** | MBS6465817 is an antibody targeting BRAF. Also known as BRAF, Phosphorylated (Thr400) (Serine/Threonine-protein Kinase B-raf, Proto-oncogene B-Raf, p94, v-Raf Murine Sarcoma Viral Oncogene Homolog B1, BRAF1, RAFB1) (MaxLight 405). Reactive in Human. Host: Rabbit. |
| **Product References and Citations for anti-BRAF antibody** | 1. Loewe, R., et al., J. Invest. Dermatol. 123(4):733-736 (2004). 2. Yamaguchi, T., et al., J. Biol. Chem. 279(39):40419-40430 (2004). 3. Frattini, M., et al., Oncogene 23(44):7436-7440 (2004). 4. Tsavachidou, D., et al., Cancer Res. 64(16):5556-5559 (2004). 5. Gear, H., et al., Invest. Ophthalmol. Vis. Sci. 45(8):2484-2488 (2004). |

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| **Other Notes** | Small volumes of anti-BRAF antibody vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply. |

## ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for BRAF. It may not necessarily be applicable to this product.

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| **NCBI GI #** | 33188459 |
| **NCBI GeneID** | 673 |
| **NCBI Accession #** | NP_004324 |
| **UniProt Primary Accession #** | P15056 |
| **UniProt Secondary Accession #** | Q13878; Q3MIN6; Q9UDP8; Q9Y6T3; A4D1T4; B6HY61; B6HY62; B6HY63; B6HY64; B6HY65; B6HY66 |
| **UniProt Related Accession #** | P15056 |
| **GenBank Nucleotide #** | NP_004324.2 |
| **NCBI Official Full Name** | serine/threonine-protein kinase B-raf isoform 1 |
| **NCBI Official Synonym Full Names** | B-Raf proto-oncogene, serine/threonine kinase |
| **NCBI Official Symbol** | BRAF |
| **NCBI Official Synonym Symbols** | NS7; B-raf; BRAF1; RAFB1; B-RAF1 |
| **UniProt Protein Name** | Serine/threonine-protein kinase B-raf |
| **UniProt Synonym Protein Names** | Proto-oncogene B-Raf; p94; v-Raf murine sarcoma viral oncogene homolog B1 |
| **Protein Family** | High-affinity branched-chain amino acid transport ATP-binding protein |
| **UniProt Gene Name** | BRAF |
| **UniProt Synonym Gene Names** | BRAF1; RAFB1 |
| **UniProt Entry Name** | BRAF_HUMAN |
| **NCBI Protein Information** | serine/threonine-protein kinase B-raf |
| **NCBI Summary for BRAF** | This gene encodes a protein belonging to the RAF family of serine/threonine protein kinases. This protein plays a role in regulating the MAP kinase/ERK signaling pathway, which affects cell division, differentiation, and secretion. Mutations in this gene, most commonly the V600E mutation, are the most frequently identified cancer-causing mutations in melanoma, and have been identified in various other cancers as well, including non-Hodgkin lymphoma, colorectal cancer, thyroid carcinoma, non-small cell lung carcinoma, hairy cell leukemia and adenocarcinoma of lung. Mutations in this gene are also associated with cardiofaciocutaneous, Noonan, and Costello syndromes, which exhibit overlapping phenotypes. A pseudogene of this gene has been identified on the X chromosome. [provided by RefSeq, Aug 2017] |

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| **UniProt Comments for BRAF** | BRAF: a tyrosine kinase-like kinase of the RAF family. Involved in the transduction of mitogenic signals from the cell membrane to the nucleus. May play a role in the postsynaptic responses of hippocampal neuron. Frequently mutated in thyroid cancers, skin melanomas and at lower frequency in a wide range of human cancers. An activating mutation, mimicking phosphorylation of the activation loop, is seen in 60% of malignant melanoma samples. Raf mutations are generally exclusive to Ras activating mutations. Activating mutations are also seen in ~10% of colorectal cancers, in lung cancers and gliomas, and at a lower rate in several other tumors. Inactivating mutations are also seen and may result in activation of c-Raf and Erk. Mutations in B-Raf, MEK1 and MEK2 also associated with cardiofaciocutaneous syndrome, displaying morphological, cardiac and mental defects. Approved Inhibitor: Nexavar/Sorafenib.<br><br>Protein type: Protein kinase, TKL; Kinase, protein; Oncoprotein; Protein kinase, Ser/Thr (non-receptor); EC 2.7.11.1; TKL group; RAF family<br><br>Chromosomal Location of Human Ortholog: 7q34<br><br>Cellular Component: neuron projection; mitochondrion; plasma membrane; cytosol; nucleus<br><br>Molecular Function: small GTPase binding; identical protein binding; protein serine/threonine kinase activity; protein binding; MAP kinase kinase kinase activity; mitogen-activated protein kinase kinase binding; protein heterodimerization activity; calcium ion binding; ATP binding; protein kinase activity<br><br>Biological Process: response to peptide hormone stimulus; positive T cell selection; response to cAMP; fibroblast growth factor receptor signaling pathway; CD4-positive, alpha beta T cell differentiation; nerve growth factor receptor signaling pathway; activation of MAPKK activity; protein heterooligomerization; somatic stem cell maintenance; MAPKKK cascade; protein amino acid phosphorylation; positive regulation of peptidyl-serine phosphorylation; regulation of cell proliferation; synaptic transmission; organ morphogenesis; myeloid progenitor cell differentiation; small GTPase mediated signal transduction; positive regulation of stress fiber formation; visual learning; negative regulation of neuron apoptosis; negative regulation of apoptosis<br><br>Disease: Noonan Syndrome 1; Noonan Syndrome 7; Lung Cancer; Leopard Syndrome 3; Cardiofaciocutaneous Syndrome 1 |
| **Research Articles on BRAF** | **1.** One way to potentially improve adoptive T cell therapy is to combine it with the administration of small molecule inhibitors. Vemurafenib specifically inhibits mutated BRAFV600E/K molecules and directs cell death of BRAFV600E/K expressing tumors |
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