10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

phospho-BRAF (Thr597) Rabbit pAb

Catalog # AP98026

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P28028
Other Accession	P28028
Reactivity	Rat, Mouse
Predicted	Pig, Human, Chicken, Dog, Horse
Host	Rabbit
Clonality	Polyclonal
Calculated MW	82515
Physical State	Liquid
Immunogen	KLH conjugated Synthesised phosphopeptide derived from mouse BRAF around the phosphorylation site of Thr597
Epitope Specificity	RQ(p-T)AQ
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.
SIMILARITY	Belongs to the protein kinase superfamily. TKL Ser/Thr protein kinase family. RAF subfamily.Contains 1 phorbol-ester/DAG-type zinc finger.Contains 1 protein kinase domain.Contains 1 RBD (Ras-binding) domain.
SUBUNIT	Monomer. Homodimer. Heterodimerizes with RAF1, and the heterodimer possesses a highly increased kinase activity compared to the respective homodimers or monomers. Heterodimerization is mitogen-regulated and enhanced by 14-3-3 proteins. MAPK1/ERK2 activation can induce a negative feedback that promotes the dissociation of the heterodimer by phosphorylating BRAF at Thr-753. Found in a complex with at least BRAF, HRAS1, MAP2K1, MAPK3 and RGS14. Interacts with RIT1. Interacts (via N-terminus) with RGS14 (via RBD domains); the interaction mediates the formation of a ternary complex with RAF1, a ternary complex inhibited by GNAI1. Interacts with DGKH.
Post-translational modifications	Phosphorylation at Ser-365 by SGK1 inhibits its activity. Methylation at Arg-671 decreases stability and kinase activity. Ubiquitinated by RNF149; which leads to proteasomal degradation.
DISEASE	Note=Defects in BRAF are found in a wide range of cancers. Defects in BRAF may be a cause of colorectal cancer (CRC) [MIM:114500]. Defects in BRAF are involved in lung cancer (LNCR) [MIM:211980]. LNCR is a common malignancy affecting tissues of the lung. The most common form of lung cancer is non-small cell lung cancer (NSCLC) that can be divided into 3 major histologic subtypes: squamous cell carcinoma, adenocarcinoma, and large cell lung cancer. NSCLC is often diagnosed at an advanced stage and has a poor prognosis. Defects in BRAF are involved in non-Hodgkin lymphoma (NHL) [MIM:605027]. NHL is a cancer that starts in cells of the lymph system, which is part of the body's immune system. NHLs can occur at any age and are often marked by enlarged lymph nodes, fever and weight loss. Defects in BRAF are a cause of cardiofaciocutaneous syndrome (CFC syndrome) [MIM:115150]; also known as cardio-facio-cutaneous syndrome. CFC syndrome is characterized by a distinctive facial appearance, heart defects and mental

retardation. Heart defects include pulmonic stenosis, atrial septal defects and hypertrophic cardiomyopathy. Some affected individuals present with ectodermal abnormalities such as sparse, friable hair, hyperkeratotic skin lesions and a generalized ichthyosis-like condition. Typical facial features are similar to Noonan syndrome. They include high forehead with bitemporal constriction, hypoplastic supraorbital ridges, downslanting palpebral fissures, a depressed nasal bridge, and posteriorly angulated ears with prominent helices. The inheritance of CFC syndrome is autosomal dominant. Defects in BRAF are the cause of Noonan syndrome type 7 (NS7) [MIM:613706]. Noonan syndrome is a disorder characterized by facial dysmorphic features such as hypertelorism, a downward eyeslant and low-set posteriorly rotated ears. Other features can include short stature, a short neck with webbing or redundancy of skin, cardiac anomalies, deafness, motor delay and variable intellectual deficits. Defects in BRAF are the cause of LEOPARD syndrome type 3 (LEOPARD3) [MIM:613707]. LEOPARD3 is a disorder characterized by lentigines, electrocardiographic conduction abnormalities, ocular hypertelorism, pulmonic stenosis, abnormalities of genitalia, retardation of growth, and sensorineural deafness. Note=A chromosomal aberration involving BRAF is found in pilocytic astrocytomas. A tandem duplication of 2 Mb at 7q34 leads to the expression of a KIAA1549-BRAF fusion protein with a constitutive kinase activity and inducing cell transformation.

Important Note This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.

Background Descriptions 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]

Additional Information

Gene ID 109880

Other Names B-RAF1; B-raf; BRAF-1; BRAF1; NS7; RAFB1; 9930012E13Rik; Braf-2; Braf2; C230098H17; D6Ertd631e; BRAF_HUMAN; BRAF; Proto-oncogene B-Raf; p94; v-Raf murine sarcoma viral oncogene homolog B1; 2.7.11.1; BRAF_MOUSE; B-Raf proto-oncogene, serine/threonine kinase; v-raf murine sarcoma viral oncogene homolog B; BRAF (phospho-T597); p-BRAF; phospho-BRAF; BRAF (phospho-Thr597)

Dilution IHC-P=1:100-500,IHC-F=1:100-500,IF=1:100-500

Storage Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name Braf {ECO:0000312|MGI:MGI:88190}

Synonyms	B-raf
Function	Involved in the transduction of mitogenic signals from the cell membrane to the nucleus. Phosphorylates MAP2K1, and thereby activates the MAP kinase signal transduction pathway. Phosphorylates PFKFB2 (By similarity). May play a role in the postsynaptic responses of hippocampal neurons.
Cellular Location	Nucleus. Cytoplasm. Cell membrane. Note=Colocalizes with RGS14 and RAF1 in both the cytoplasm and membranes.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.