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RAF1 Antibody (S621)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7816d

Product Information

Application	WB, IHC-P, E
Primary Accession	P04049
Other Accession	P11345, Q99N57, P05625, A7E3S4
Reactivity	Human
Predicted	Bovine, Chicken, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB13293
Calculated MW	73052
Antigen Region	599-628

Additional Information

Gene ID	5894
Other Names	RAF proto-oncogene serine/threonine-protein kinase, Proto-oncogene c-RAF, cRaf, Raf-1, RAF1, RAF
Target/Specificity	This RAF1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 599-628 amino acids from human RAF1.
Dilution	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	RAF1 Antibody (S621) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	RAF1 (HGNC:9829)
Synonyms	RAF

Function	Serine/threonine-protein kinase that acts as a regulatory link between the membrane-associated Ras GTPases and the MAPK/ERK cascade, and this critical regulatory link functions as a switch determining cell fate decisions including proliferation, differentiation, apoptosis, survival and oncogenic transformation. RAF1 activation initiates a mitogen-activated protein kinase (MAPK) cascade that comprises a sequential phosphorylation of the dual-specific MAPK kinases (MAP2K1/MEK1 and MAP2K2/MEK2) and the extracellular signal- regulated kinases (MAPK3/ERK1 and MAPK1/ERK2). The phosphorylated form of RAF1 (on residues Ser-338 and Ser-339, by PAK1) phosphorylates BAD/Bcl2-antagonist of cell death at 'Ser-75'. Phosphorylates adenylyl cyclases: ADCY2, ADCY5 and ADCY6, resulting in their activation. Phosphorylates PPP1R12A resulting in inhibition of the phosphatase activity. Phosphorylates TNNT2/cardiac muscle troponin T. Can promote NF-kB activation and inhibit signal transducers involved in motility (ROCK2), apoptosis (MAP3K5/ASK1 and STK3/MST2), proliferation and angiogenesis (RB1). Can protect cells from apoptosis also by translocating to the mitochondria where it binds BCL2 and displaces BAD/Bcl2-antagonist of cell death. Regulates Rho signaling and migration, and is required for normal wound healing. Plays a role in the oncogenic transformation of epithelial cells via repression of the TJ protein, occludin (OCLN) by inducing the up-regulation of a transcriptional repressor SNAI2/SLUG, which induces down-regulation of OCLN. Restricts caspase activation in response to selected stimuli, notably Fas stimulation, pathogen-mediated macrophage apoptosis, and erythroid differentiation.
Cellular Location	Cytoplasm. Cell membrane. Mitochondrion. Nucleus. Note=Colocalizes with RGS14 and BRAF in both the cytoplasm and membranes. Phosphorylation at Ser-259 impairs its membrane accumulation. Recruited to the cell membrane by the active Ras protein Phosphorylation at Ser-338 and Ser-339 by PAK1 is required for its mitochondrial localization. Retinoic acid-induced Ser-621 phosphorylated form of RAF1 is predominantly localized at the nucleus
Tissue Location	In skeletal muscle, isoform 1 is more abundant than isoform 2.

Background

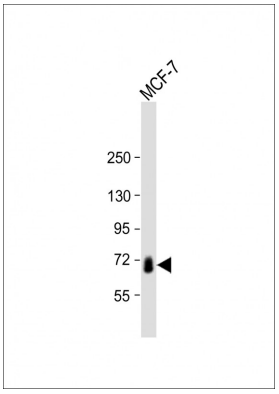
RAF1 is a MAP kinase kinase kinase (MAP3K) which functions downstream of the Ras family of membrane associated GTPases to which it binds directly. Once activated, RAF1 can phosphorylate to activate the dual specificity protein kinases MEK1 and MEK2 which in turn phosphorylate to activate the serine/threonine specific protein kinases ERK1 and ERK2. Activated ERKs are pleiotropic effectors of cell physiology and play an important role in the control of gene expression involved in the cell division cycle, apoptosis, cell differentiation and cell migration.

References

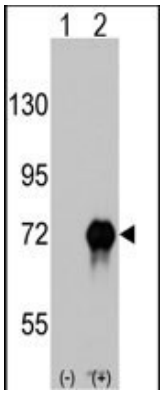
Chong, H., et al., J. Biol. Chem. 278(38):36269-36276 (2003).
Lee, M., et al., Cancer Lett. 193(1):57-64 (2003).
Alavi, A., et al., Science 301(5629):94-96 (2003).
Fringer, J., et al., J. Biol. Chem. 278(23):20612-20617 (2003).
Oehrl, W., et al., J. Biol. Chem. 278(20):17819-17826 (2003).

Images

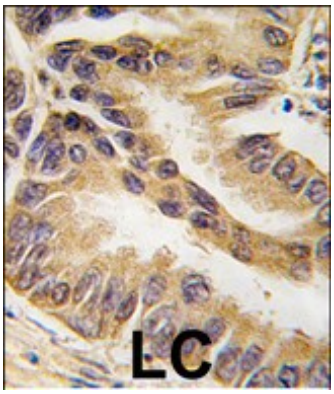
Anti-RAF1 Antibody at 1:1000 dilution + MCF-7 whole cell lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000



dilution. Predicted band size : 73 kDa Blocking/Dilution buffer: 5% NFDM/TBST.



Western blot analysis of RAF1 (arrow) using rabbit polyclonal RAF1 Antibody (S296) (Cat# AP7816d).293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the RAF1 gene (Lane 2) (Origene Technologies).



Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with RAF1-pS621, which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

Citations

- miR-433 accelerates acquired chemoresistance of gallbladder cancer cells by targeting cyclin M.