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

Phospho-RAF1(S43) Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3332a

Product Information

Application	WB, DB, E
Primary Accession	P04049
Other Accession	P11345, Q99N57, A7E3S4
Reactivity	Human
Predicted	Bovine, Mouse, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB11127
Calculated MW	73052

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 phosphopeptide corresponding to amino acid residues surrounding S43 of human RAF1.
Dilution	WB~~1:1000 DB~~1:500 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.05% (V/V) Proclin 300. 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	Phospho-RAF1(S43) Antibody 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

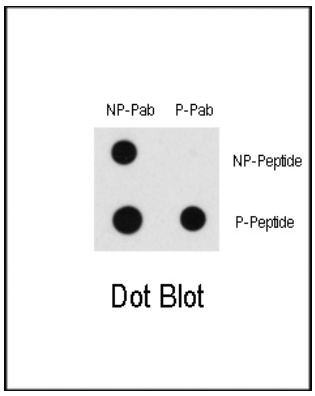
Raf-1 is a MAP kinase kinase kinase (MAP3K) which functions downstream of the Ras family of membrane associated GTPases to which it binds directly. Once activated Raf-1 can phosphorylate to activate the dual specificity protein kinases MEK1 and MEK2 which in turn phosphorylate to activate the serine/threonine 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

Dasgupta, P., et al., Mol. Cell. Biol. 24(21):9527-9541 (2004).
Ku, N.O., et al., J. Cell Biol. 166(4):479-485 (2004).
Gohlke, H., et al., Proteins 56(2):322-337 (2004).
Akula, S.M., et al., Oncogene 23(30):5227-5241 (2004).
Goetz, C.A., et al., J. Immunol. 172(8):4770-4778 (2004).

Images

Dot blot analysis of Phospho-RAF1-S43 Phospho-specific Pab (Cat.AP3332a) on nitrocellulose membrane. 50ng of Phospho-peptide or Non Phospho-peptide per dot were adsorbed. Antobodies working concentration was 0.5ug



per ml.

Citations

- Biallelic cGMP-dependent type II protein kinase gene ( ) variants cause a novel acromesomelic dysplasia
- Type II cGMP-dependent protein kinase negatively regulates fibroblast growth factor signaling by phosphorylating Raf-1 at serine 43 in rat chondrosarcoma cells.

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