

# RAF1 Antibody (S339)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7816k

## Product Information

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<b>Application</b>	WB, IHC-P, E
<b>Primary Accession</b>	<a href="#">P04049</a>
<b>Other Accession</b>	<a href="#">P11345</a> , <a href="#">Q99N57</a> , <a href="#">P05625</a> , <a href="#">A7E3S4</a>
<b>Reactivity</b>	Human
<b>Predicted</b>	Bovine, Chicken, Mouse, Rat
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal
<b>Isotype</b>	Rabbit IgG
<b>Clone Names</b>	RB11340
<b>Calculated MW</b>	73052

## Additional Information

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<b>Gene ID</b>	5894
<b>Other Names</b>	RAF proto-oncogene serine/threonine-protein kinase, Proto-oncogene c-RAF, cRaf, Raf-1, RAF1, RAF
<b>Target/Specificity</b>	This RAF1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide corresponding to amino acid residues surrounding S339 of human RAF1.
<b>Dilution</b>	WB~~1:1000 IHC-P~~1:100~500 E~~Use at an assay dependent concentration.
<b>Format</b>	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.
<b>Storage</b>	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.
<b>Precautions</b>	RAF1 Antibody (S339) is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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<b>Name</b>	RAF1 ( <a href="#">HGNC:9829</a> )
<b>Synonyms</b>	RAF
<b>Function</b>	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 (MAP3K/ERK1 and MAP3K/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- $\kappa$ B 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

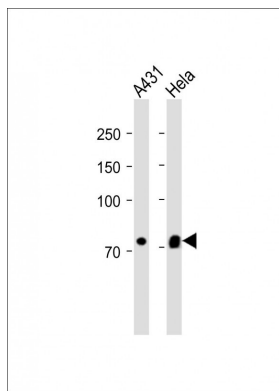
RAF1 is a MAP kinase kinase kinase (MAP3K) which functions downstream of the Ras family of membrane associated GTPases to which it binds directly. Once activated, RAF1 can phosphorylate to activate the dual specificity protein kinases MEK1 and MEK2 which in turn phosphorylate to activate the serine/threonine 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

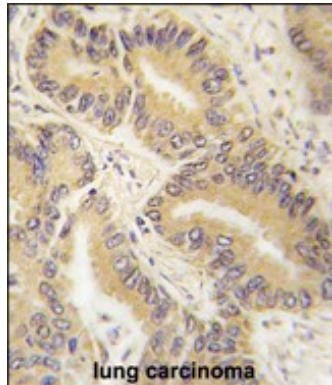
- Chong, H., et al., J. Biol. Chem. 278(38):36269-36276 (2003).  
 Lee, M., et al., Cancer Lett. 193(1):57-64 (2003).  
 Alavi, A., et al., Science 301(5629):94-96 (2003).  
 Fringer, J., et al., J. Biol. Chem. 278(23):20612-20617 (2003).  
 Oehrl, W., et al., J. Biol. Chem. 278(20):17819-17826 (2003).

## Images

All lanes: Anti-RAF1 Antibody (S339) at 1:1000 dilution  
 Lane 1: A431 whole cell lysate Lane 2: Hela whole cell  
 lysate Lysates/proteins at 20  $\mu$ g per lane. Secondary: Goat  
 Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ASP1615)



at 1/15000 dilution. Observed band size: 73 KDa  
Blocking/Dilution buffer: 5% NFDM/TBST.



Formalin-fixed and paraffin-embedded human lung carcinoma tissue reacted with RAF1 Antibody (S339) (Cat.#AP7816k), 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.

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