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Phospho-ERK3-S189 Antibody

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP3098a

Product Information

Application	IHC-P, E
Primary Accession	Q16659
Other Accession	P27704, Q61532, Q5F3W3
Reactivity	Human
Predicted	Chicken, Mouse, Rat, Bovine, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB5800
Calculated MW	82681

Additional Information

Gene ID	5597
Other Names	Mitogen-activated protein kinase 6, MAP kinase 6, MAPK 6, Extracellular signal-regulated kinase 3, ERK-3, MAP kinase isoform p97, p97-MAPK, MAPK6, ERK3, PRKM6
Target/Specificity	This Phospho-ERK3-S189 antibody is generated from rabbits immunized with a KLH conjugated synthetic phosphopeptide corresponding to amino acid residues surrounding S189 of human ERK3.
Dilution	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	Phospho-ERK3-S189 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAPK6
Synonyms	ERK3, PRKM6

Function	Atypical MAPK protein. Phosphorylates microtubule-associated protein 2 (MAP2) and MAPKAPK5. The precise role of the complex formed with MAPKAPK5 is still unclear, but the complex follows a complex set of phosphorylation events: upon interaction with atypical MAPKAPK5, ERK3/MAPK6 is phosphorylated at Ser-189 and then mediates phosphorylation and activation of MAPKAPK5, which in turn phosphorylates ERK3/MAPK6. May promote entry in the cell cycle (By similarity).
Cellular Location	Cytoplasm. Nucleus. Note=Translocates to the cytoplasm following interaction with MAPKAPK5
Tissue Location	Highest expression in the skeletal muscle, followed by the brain. Also found in heart, placenta, lung, liver, pancreas, kidney and skin fibroblasts

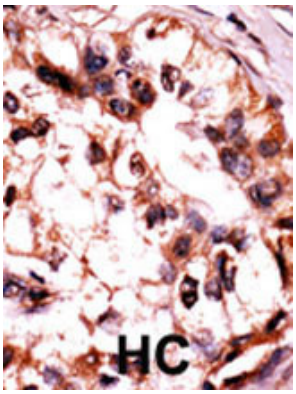
Background

ERK3 is a member of the Ser/Thr protein kinase family, and is most closely related to mitogen-activated protein kinases (MAP kinases). MAP kinases also known as extracellular signal-regulated kinases (ERKs), are activated through protein phosphorylation cascades and act as integration points for multiple biochemical signals. This kinase is localized in the nucleus, and has been reported to be activated in fibroblasts upon treatment with serum or phorbol esters.

References

Rai, R., et al., Oral Oncol. 40(7):705-712 (2004).
Coulombe, P., et al., Mol. Cell. Biol. 24(14):6140-6150 (2004).
Coulombe, P., et al., Mol. Cell. Biol. 23(13):4542-4558 (2003).
Julien, C., et al., J. Biol. Chem. 278(43):42615-42624 (2003).
Robinson, M.J., et al., J. Biol. Chem. 277(7):5094-5100 (2002).

Images



Formalin-fixed and paraffin-embedded human cancer tissue reacted with the primary antibody, which was peroxidase-conjugated to the secondary antibody, followed by AEC staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated. BC = breast carcinoma; HC = hepatocarcinoma.

Citations

- Genetic inhibition of cardiac ERK1/2 promotes stress-induced apoptosis and heart failure but has no effect on hypertrophy in vivo.
- Identification of the atypical MAPK Erk3 as a novel substrate for p21-activated kinase (Pak) activity.
- A versatile nanoplatform for synergistic combination therapy to treat human esophageal cancer.
- Regulation of atypical MAP kinases ERK3 and ERK4 by the phosphatase DUSP2.

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