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MAPK7 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7504a

Product Information

Application	WB, IHC-P, E
Primary Accession	Q13164
Other Accession	P0C865, Q9WVS8, A5PKJ4
Reactivity	Human
Predicted	Bovine, Mouse, Rat, Canine, Rabbit
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB0919
Calculated MW	88386
Antigen Region	776-805

Additional Information

Gene ID	5598
Other Names	Mitogen-activated protein kinase 7, MAP kinase 7, MAPK 7, Big MAP kinase 1, BMK-1, Extracellular signal-regulated kinase 5, ERK-5, MAPK7, BMK1, ERK5, PRKM7
Target/Specificity	This MAPK7 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 776-805 amino acids from the C-terminal region of human MAPK7.
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 prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
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	MAPK7 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAPK7
Synonyms	BMK1, ERK5, PRKM7

Function	Plays a role in various cellular processes such as proliferation, differentiation and cell survival. The upstream activator of MAPK7 is the MAPK kinase MAP2K5. Upon activation, it translocates to the nucleus and phosphorylates various downstream targets including MEF2C. EGF activates MAPK7 through a Ras-independent and MAP2K5-dependent pathway. As part of the MAPK/ERK signaling pathway, acts as a negative regulator of apoptosis in cardiomyocytes via interaction with STUB1/CHIP and promotion of STUB1-mediated ubiquitination and degradation of ICER-type isoforms of CREM (By similarity). May have a role in muscle cell differentiation. May be important for endothelial function and maintenance of blood vessel integrity. MAP2K5 and MAPK7 interact specifically with one another and not with MEK1/ERK1 or MEK2/ERK2 pathways. Phosphorylates SGK1 at Ser-78 and this is required for growth factor-induced cell cycle progression. Involved in the regulation of p53/TP53 by disrupting the PML-MDM2 interaction.
Cellular Location	Cytoplasm. Nucleus. Nucleus, PML body. Note=Translocates to the nucleus upon activation
Tissue Location	Expressed in many adult tissues. Abundant in heart, placenta, lung, kidney and skeletal muscle. Not detectable in liver

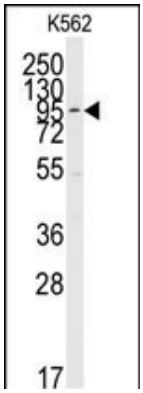
Background

MEK5 and ERK5, a member of the MAP kinase subfamily of the Ser/Thr protein kinases, interact specifically with one another and not with MEK1/ERK1 or MEK2/ERK2 pathways. ERK5 is activated by tyrosine and threonine phosphorylation It is expressed in many adult tissues, abundantly in heart, placenta, lung, kidney and skeletal muscle, but is not detectable in liver. The second proline-rich region may interact with actin targeting the kinase to a specific location in the cell. ERK5 is autophosphorylated on threonine and tyrosine residues when the C-terminal part of the kinase, which could have a regulatory role, is absent.

References

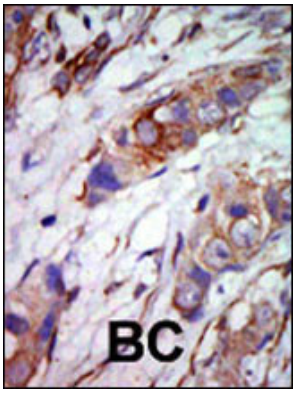
Zhou, G., et al., J. Biol. Chem. 270(21):12665-12669 (1995).
Lee, J.D., et al., Biochem. Biophys. Res. Commun. 213(2):715-724 (1995).

Images

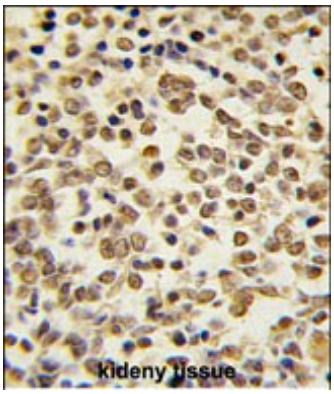


Western blot analysis of anti-ERK5 C-term Pab (Cat. #AP7504a) in K562 cell line lysates (35ug/lane). ERK5 (arrow) was detected using the purified Pab.

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.



Formalin-fixed and paraffin-embedded human kideny carcinoma tissue reacted with ERK5 Antibody (C-term) (Cat.#AP7504a), 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'.