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

MAPK15 Antibody (N-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7554a

Product Information

Application	WB, IHC-P, E
Primary Accession	Q8TD08
Reactivity	Human
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB12573
Calculated MW	59832
Antigen Region	32-61

Additional Information

Gene ID	225689
Other Names	Mitogen-activated protein kinase 15, MAP kinase 15, MAPK 15, Extracellular signal-regulated kinase 7, ERK-7, Extracellular signal-regulated kinase 8, ERK-8, MAPK15, ERK7, ERK8
Target/Specificity	This MAPK15 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 32-61 amino acids from the N-terminal region of human MAPK15.
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	MAPK15 Antibody (N-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAPK15 (HGNC:24667)
Function	Atypical MAPK protein that regulates several process such as autophagy, ciliogenesis, protein trafficking/secretion and genome integrity, in a kinase activity-dependent manner (PubMed:20733054, PubMed:21847093,

	PubMed:22948227, PubMed:24618899, PubMed:29021280). Controls both, basal and starvation-induced autophagy throught its interaction with GABARAP, MAP1LC3B and GABARAPL1 leading to autophagosome formation, SQSTM1 degradation and reduced MAP1LC3B inhibitory phosphorylation (PubMed:22948227). Regulates primary cilium formation and the localization of ciliary proteins involved in cilium structure, transport, and signaling (PubMed:29021280). Prevents the relocation of the sugar-adding enzymes from the Golgi to the endoplasmic reticulum, thereby restricting the production of sugar- coated proteins (PubMed:24618899). Upon amino-acid starvation, mediates transitional endoplasmic reticulum site disassembly and inhibition of secretion (PubMed:21847093). Binds to chromatin leading to MAPK15 activation and interaction with PCNA, that which protects genomic integrity by inhibiting MDM2-mediated degradation of PCNA (PubMed:20733054). Regulates DA transporter (DAT) activity and protein expression via activation of RhoA (PubMed:28842414). In response to H(2)O(2) treatment phosphorylates ELAVL1, thus preventing it from binding to the PDCD4 3'UTR and rendering the PDCD4 mRNA accessible to miR-21 and leading to its degradation and loss of protein expression (PubMed:26595526). Also functions in a kinase activity-independent manner as a negative regulator of growth (By similarity). Phosphorylates in vitro FOS and MBP (PubMed:11875070, PubMed:16484222, PubMed:19166846, PubMed:20638370). During oocyte maturation, plays a key role in the microtubule organization and meiotic cell cycle progression in oocytes, fertilized eggs, and early embryos (By similarity). Interacts with ESRRA promoting its re-localization from the nucleus to the cytoplasm and then prevents its transcriptional activity (PubMed:21190936).
Cellular Location	Cytoplasm, cytoskeleton, cilium basal body. Cell junction, tight junction. Cytoplasm, cytoskeleton, microtubule organizing center, centrosome, centriole Cytoplasmic vesicle, autophagosome. Golgi apparatus. Nucleus. Cytoplasm. Cytoplasm, cytoskeleton, spindle {ECO:0000250|UniProtKB:Q80Y86}. Note=Co-localizes to the cytoplasm only in presence of ESRRA (PubMed:21190936) Translocates to the nucleus upon activation (PubMed:20638370). At prometaphase I, metaphase I (MI), anaphase I, telophase I, and metaphase II (MII) stages, is stably detected at the spindle (By similarity). {ECO:0000250|UniProtKB:Q80Y86, ECO:0000269|PubMed:20638370, ECO:0000269|PubMed:21190936}
Tissue Location	Widely expressed with a maximal expression in lung and kidney.

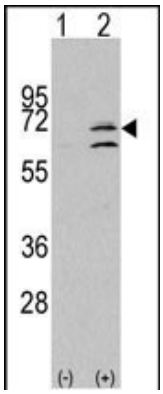
Background

The ERKs are a subfamily of the MAPKs that have been implicated in cell growth and differentiation. Extracellular signal-regulated kinase 8 (Erk8) is a large MAP kinase whose activity is controlled by serum and the c-Src non-receptor tyrosine kinase. ERK8 down-regulates transactivation of the glucocorticoid receptor through Hic-5 and can negatively regulate transcriptional co-activation of androgen receptor and GRalpha by Hic-5 in a kinase-independent manner, suggesting a broader role for ERK8 in the regulation of nuclear receptors beyond estrogen receptor alpha. Erk8 is a novel effector of RET/PTC3 and, therefore, RET biological functions.

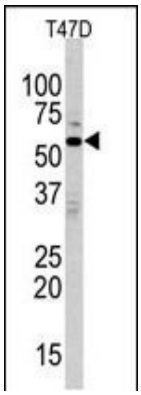
References

Saelzler,M.P., J. Biol. Chem. 281 (24), 16821-16832 (2006)
Iavarone,C., J. Biol. Chem. 281 (15), 10567-10576 (2006)
Klevernic,I.V., Biochem. J. 394 (PT 1), 365-373 (2006)
Suzuki,Y., Genome Res. 14 (9), 1711-1718 (2004)

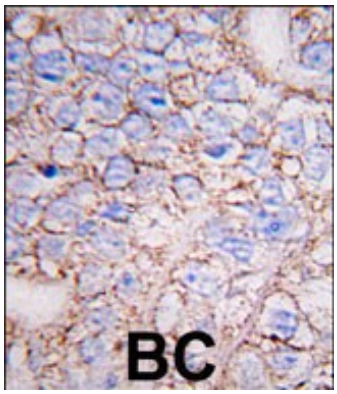
Images



Western blot analysis of ERK8 (arrow) using rabbit polyclonal ERK8 Antibody (N-term) (Cat.#AP7554a). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the MAPK15 gene (Lane 2) (Origene Technologies).



Western blot analysis of anti-ERK8 Antibody (N-term) (Cat.#AP7554a) in T47D cell line lysates (35ug/lane). ERK8 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human breast carcinoma tissue reacted with ERK8 antibody (N-term)(Cat.#AP7554a), 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

- A chromatin-bound kinase, ERK8, protects genomic integrity by inhibiting HDM2-mediated degradation of the DNA clamp PCNA.