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ZPK Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7214a

Product Information

Application	IHC-P, WB, E
Primary Accession	Q12852
Reactivity	Human, Rat, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Calculated MW	93219
Antigen Region	828-859

Additional Information

Gene ID	7786
Other Names	Mitogen-activated protein kinase kinase kinase 12, Dual leucine zipper bearing kinase, DLK, Leucine-zipper protein kinase, ZPK, MAPK-upstream kinase, MUK, Mixed lineage kinase, MAP3K12, ZPK
Target/Specificity	This ZPK antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 828-859 amino acids from the C-terminal region of human ZPK.
Dilution	IHC-P~~1:100~500 WB~~1:500-1:1000 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	ZPK Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAP3K12
Synonyms	ZPK
Function	Part of a non-canonical MAPK signaling pathway (PubMed: 28111074).

	Activated by APOE, enhances the AP-1-mediated transcription of APP, via a MAP kinase signal transduction pathway composed of MAP2K7 and MAPK1/ERK2 and MAPK3/ERK1 (PubMed:28111074). May be an activator of the JNK/SAPK pathway.
Cellular Location	Cytoplasm {ECO:0000250|UniProtKB:Q60700}. Cell membrane {ECO:0000250|UniProtKB:Q60700}. Note=Behaves essentially as an integral membrane protein. {ECO:0000250|UniProtKB:Q60700}
Tissue Location	Highly expressed in brain and kidney.

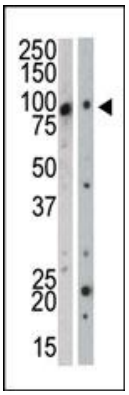
Background

ZPK is a member of serine/threonine protein kinase family. This kinase contains a leucine-zipper domain, and is predominately expressed in neuronal cells. The phosphorylation state of this kinase in synaptic terminals was shown to be regulated by membrane depolarization via calcineurin. This kinase forms heterodimers with leucine zipper containing transcription factors, such as cAMP responsive element binding protein (CREB) and MYC, and thus may play a regulatory role in PKA or retinoic acid induced neuronal differentiation.

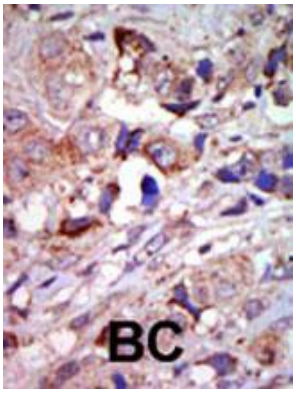
References

Itoh, A., et al., Biochem. Biophys. Res. Commun. 313(3):612-618 (2004).
Fukuyama, K., et al., J. Biol. Chem. 275(28):21247-21254 (2000).
Reddy, U.R., et al., Oncogene 18(31):4474-4484 (1999).
Mata, M., et al., J. Biol. Chem. 271(28):16888-16896 (1996).
Hirai, S., et al., Oncogene 12(3):641-650 (1996).

Images



Western blot analysis of anti-ZPK C-term Pab (Cat. #AP7214a) in HL-60 cell lysate (lane A) and in mouse kidney tissue lysate (lane B). ZPK (arrow) was detected using purified Pab. Secondary HRP-anti-rabbit was used for signal visualization with chemiluminescence.



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

- MicroRNA-130a Targets MAP3K12 to Modulate Diabetic Endothelial Progenitor Cell Function.
- The DLK gene is a transcriptional target of PPAR □.