

Germinal Center Kinase (GCK/MAP4K2) Antibody (Center)

Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP7065b

Product Information

Application	WB, IHC-P, E
Primary Accession	Q12851
Reactivity	Human, Mouse
Predicted	Rat, Bovine, Canine
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB1204
Calculated MW	91556
Antigen Region	288-319

Additional Information

Gene ID	5871
Other Names	Mitogen-activated protein kinase kinase kinase kinase 2, B lymphocyte serine/threonine-protein kinase, Germinal center kinase, GC kinase, MAPK/ERK kinase kinase kinase 2, MEK kinase kinase 2, MEKKK 2, Rab8-interacting protein, MAP4K2, GCK, RAB8IP
Target/Specificity	This Germinal Center Kinase (GCK/MAP4K2) antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 288-319 amino acids from the Central region of human Germinal Center Kinase (GCK/MAP4K2).
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	Germinal Center Kinase (GCK/MAP4K2) Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	MAP4K2 (HGNC:6864)
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Synonyms	GCK, RAB8IP
Function	Serine/threonine-protein kinase which acts as an essential component of the MAP kinase signal transduction pathway. Acts as a MAPK kinase kinase (MAP4K) and is an upstream activator of the stress-activated protein kinase/c-Jun N-terminal kinase (SAP/JNK) signaling pathway and to a lesser extent of the p38 MAPKs signaling pathway. Required for the efficient activation of JNKs by TRAF6- dependent stimuli, including pathogen-associated molecular patterns (PAMPs) such as polyinosine-polycytidine (poly(IC)), lipopolysaccharides (LPS), lipid A, peptidoglycan (PGN), or bacterial flagellin. To a lesser degree, IL-1 and engagement of CD40 also stimulate MAP4K2-mediated JNKs activation. The requirement for MAP4K2/GCK is most pronounced for LPS signaling, and extends to LPS stimulation of c-Jun phosphorylation and induction of IL-8. Enhances MAP3K1 oligomerization, which may relieve N-terminal mediated MAP3K1 autoinhibition and lead to activation following autophosphorylation. Also mediates the SAP/JNK signaling pathway and the p38 MAPKs signaling pathway through activation of the MAP3Ks MAP3K10/MLK2 and MAP3K11/MLK3. May play a role in the regulation of vesicle targeting or fusion. regulation of vesicle targeting or fusion. Activator of the Hippo signaling pathway which plays a pivotal role in organ size control and tumor suppression by restricting proliferation and promoting apoptosis. MAP4Ks act in parallel to and are partially redundant with STK3/MST2 and STK4/MST2 in the phosphorylation and activation of LATS1/2, and establish MAP4Ks as components of the expanded Hippo pathway (PubMed: 26437443).
Cellular Location	Cytoplasm. Basolateral cell membrane; Peripheral membrane protein Golgi apparatus membrane; Peripheral membrane protein
Tissue Location	Highly expressed in germinal center but not mantle zone B-cells. Also expressed in lung, brain and placenta and at lower levels in other tissues examined.

Background

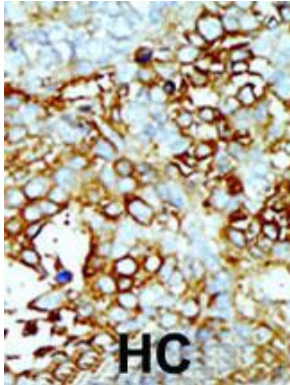
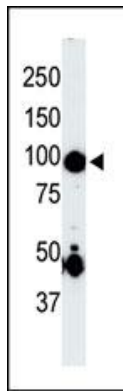
The protein encoded by this gene is a member of the serine/threonine protein kinase family. Although this kinase is found in many tissues, its expression in lymphoid follicles is restricted to the cells of germinal centre, where it may participate in B-cell differentiation. This kinase can be activated by TNF-alpha, and has been shown to specifically activate MAP kinases. This kinase is also found to interact with TNF receptor-associated factor 2 (TRAF2), which is involved in the activation of MAP3K1/MEKK1.

References

Chadee, D.N., et al., Mol. Cell. Biol. 22(3):737-749 (2002).
Katz, P., et al., J. Biol. Chem. 269(24):16802-16809 (1994).

Images

The anti-MAP4K2 Pab (Cat. #AP7065b) is used in Western blot to detect MAP4K2 in mouse skeletal muscle tissue lysate.



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.

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