abcam

ab278705

Anti-MK2 (phospho T334) antibody [MAPKAPK2T334-H2]

Recombinant | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS, 50% Glycerol (glycerin, glycerine), 0.1% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	Synthetic Peptide within Human MAPKAPK2 pT334. The exact immunogen used to generate this antibody is proprietary information. Database link P49137
Clone number	MAPKAPK2T334-H2
Purification technique	Affinity purification Protein A/G
Light chain type	kappa
Concentration	0.5 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Mouse

Dilution info	0.001-1 µg/mL
Notes	-

Species	Human
Dilution info	0.001-1 µg/mL
Notes	-

WB

Tested

Species	Human
Dilution info	0.05 µg/mL
Notes	-

Expected

Species	Mouse
Dilution info	Use at an assay dependent concentration.
Notes	-

Target data

See full target information MAPKAPK2 pT334

Function

Stress-activated serine/threonine-protein kinase involved in cytokine production, endocytosis, reorganization of the cytoskeleton, cell migration, cell cycle control, chromatin remodeling, DNA damage response and transcriptional regulation. Following stress, it is phosphorylated and activated by MAP kinase p38-alpha/MAPK14, leading to phosphorylation of substrates. Phosphorylates serine in the peptide sequence, Hyd-X-R-X(2)-S, where Hyd is a large hydrophobic residue. Phosphorylates ALOX5, CDC25B, CDC25C, CEP131, ELAVL1, HNRNPA0, HSP27/HSPB1, KRT18, KRT20, LIMK1, LSP1, PABPC1, PARN, PDE4A, RCSD1, RPS6KA3, TAB3 and TTP/ZFP36. Phosphorylates HSF1; leading to the interaction with HSP90 proteins and inhibiting HSF1 homotrimerization, DNA-binding and transactivation activities (PubMed:16278218). Mediates phosphorylation of HSP27/HSPB1 in response to stress, leading to the dissociation of HSP27/HSPB1 from large small heat-shock protein (sHsps) oligomers and impairment of their chaperone activities and ability to protect against oxidative stress effectively. Involved in inflammatory response by regulating tumor necrosis factor (TNF) and IL6 production post-transcriptionally: acts by phosphorylating AU-rich elements (AREs)-binding proteins ELAVL1, HNRNPA0, PABPC1 and TTP/ZFP36, leading to the

regulation of the stability and translation of TNF and IL6 mRNAs. Phosphorylation of TTP/ZFP36, a major post-transcriptional regulator of TNF, promotes its binding to 14-3-3 proteins and reduces its ARE mRNA affinity, leading to inhibition of dependent degradation of ARE-containing transcripts. Phosphorylates CEP131 in response to cellular stress induced by ultraviolet irradiation which promotes binding of CEP131 to 14-3-3 proteins and inhibits formation of novel centriolar satellites (PubMed:26616734). Also involved in late G2/M checkpoint following DNA damage through a process of post-transcriptional mRNA stabilization: following DNA damage, relocalizes from nucleus to cytoplasm and phosphorylates HNRNPA0 and PARN, leading to stabilization of GADD45A mRNA. Involved in toll-like receptor signaling pathway (TLR) in dendritic cells: required for acute TLR-induced macropinocytosis by phosphorylating and activating RPS6KA3.

Storage

Shipped at conditions	Blue Ice
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	The MK2 protein also known as mitogen-activated protein kinase-activated protein kinase 2 or MAPKAPK2 is an important enzyme involved in cellular signaling. MK2

	has a protein mass of approximately 44 kDa. It is widely expressed in various tissues indicating its broad functional roles. MK2 interacts with MAP kinases facilitating the transmission of signals within cells during stress responses and inflammation.
Biological function summary	MK2 plays an important role in the cellular stress response by regulating cytokine production particularly in inflammation. It acts as part of a protein complex with p38 MAPK enhancing its kinase activity. This interaction allows MK2 to control the expression of inflammatory cytokines and other stress-responsive proteins. The complex also responds to cellular stress signals allowing it to modulate gene expression effectively.
Pathways	MK2 contributes to the p38 MAPK signaling pathway a major route for stress and inflammatory responses in cells. MK2 often interacts with related proteins like p38 MAPK which are directly upstream in the signaling cascade. Additionally MK2 is involved in the post-transcriptional regulation of mRNA stability and translation interfacing with the NF-kB signaling pathway highlighting its regulatory role in inflammation.
Associated diseases and disorders	MK2's role in inflammation links it to numerous inflammatory diseases such as rheumatoid arthritis and Crohn's disease. MK2's interaction with other proteins like p38 MAPK and downstream effectors such as transcription factors emphasizes its therapeutic potential. Targeting MK2 and its interaction with these proteins may offer novel treatments for conditions characterized by dysregulated inflammatory responses.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

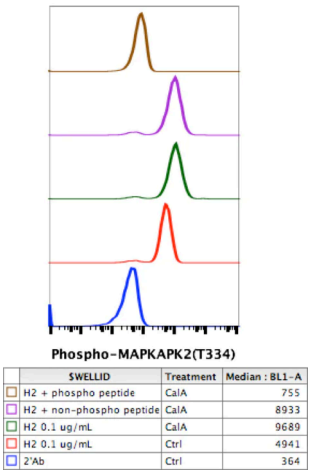
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

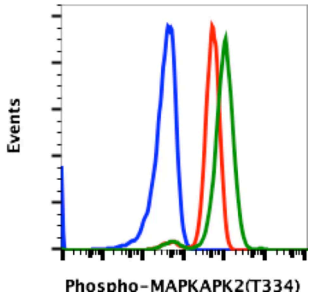
4 product images



Flow Cytometry - Anti-MK2 (phospho T334) antibody [MAPKAPK2T334-H2] (ab278705)

MK2 (phospho T334) Flow Cytometry staining using rabbit Anti-MK2 (phospho T334) antibody

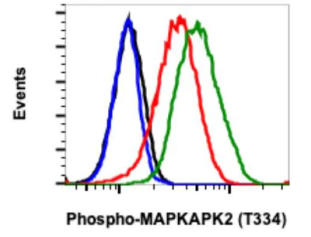
Flow cytometric analysis of U937 cells secondary antibody only negative control (blue) or untreated (red) treated with CalA (green) with 10X non-phospho peptide (violet) or phospho-peptide (brown) using ab28705 at 0.1 µg/mL.



Flow Cytometry - Anti-MK2 (phospho T334) antibody [MAPKAPK2T334-H2] (ab278705)

MK2 (phospho T334) Flow Cytometry staining using rabbit Anti-MK2 (phospho T334) antibody

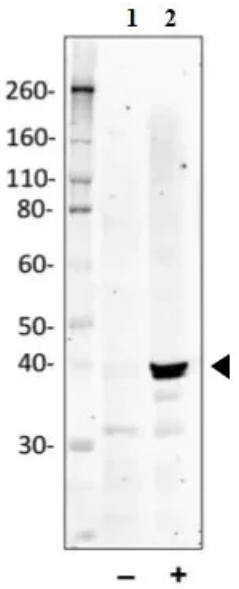
Flow cytometric analysis of U937 cells secondary antibody only negative control (blue) or untreated (red) or treated with CalA (green) using ab278705 at 0.1 µg/mL.



Flow Cytometry - Anti-MK2 (phospho T334) antibody [MAPKAPK2T334-H2] (ab278705)

MK2 (phospho T334) Flow Cytometry staining using rabbit Anti-MK2 (phospho T334) antibody

Flow cytometric analysis of NIH/3T3 cells untreated (red) or treated with UV (green) usingab278705 at 0.05 ug/mL, or concentration-matched Rabbit (G9) mAb IgG Isotype Control for cells untreated (black) or treated with UV (blue).



Western blot - Anti-MK2 (phospho T334) antibody [MAPKAPK2T334-H2] (ab278705)

All lanes:
Western blot - Anti-MK2 (phospho T334) antibody [MAPKAPK2T334-H2] (ab278705) at 0.05 µg/mL

Lane 1:
HeLa (human epithelial cell line from cervix adenocarcinoma) untreated, whole cell lysate

Lane 2:
HeLa (human epithelial cell line from cervix adenocarcinoma) treated with UV+TPA, whole cell lysate

Predicted band size: 46 kDa

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