

Datasheet for ABIN7159994
anti-MAPK14 antibody (AA 2-258)



[Go to Product page](#)

3 Images

Overview

Quantity:	100 µg
Target:	MAPK14
Binding Specificity:	AA 2-258
Reactivity:	Human
Host:	Rabbit
Clonality:	Polyclonal
Conjugate:	This MAPK14 antibody is un-conjugated
Application:	Western Blotting (WB), ELISA, Immunohistochemistry (IHC)

Product Details

Immunogen:	Recombinant Human Mitogen-activated protein kinase 14 protein (2-258AA)
Isotype:	IgG
Cross-Reactivity:	Human
Purification:	>95%, Protein G purified

Target Details

Target:	MAPK14
Alternative Name:	MAPK14 (MAPK14 Products)
Background:	Background: Serine/threonine kinase which acts as an essential component of the MAP kinase signal transduction pathway. MAPK14 is one of the four p38 MAPKs which play an important

role in the cascades of cellular responses evoked by extracellular stimuli such as proinflammatory cytokines or physical stress leading to direct activation of transcription factors. Accordingly, p38 MAPKs phosphorylate a broad range of proteins and it has been estimated that they may have approximately 200 to 300 substrates each. Some of the targets are downstream kinases which are activated through phosphorylation and further phosphorylate additional targets. RPS6KA5/MSK1 and RPS6KA4/MSK2 can directly phosphorylate and activate transcription factors such as CREB1, ATF1, the NF-kappa-B isoform RELA/NFKB3, STAT1 and STAT3, but can also phosphorylate histone H3 and the nucleosomal protein HMGN1. RPS6KA5/MSK1 and RPS6KA4/MSK2 play important roles in the rapid induction of immediate-early genes in response to stress or mitogenic stimuli, either by inducing chromatin remodeling or by recruiting the transcription machinery. On the other hand, two other kinase targets, MAPKAPK2/MK2 and MAPKAPK3/MK3, participate in the control of gene expression mostly at the post-transcriptional level, by phosphorylating ZFP36 (tristetraprolin) and ELAVL1, and by regulating EEF2K, which is important for the elongation of mRNA during translation. MKNK1/MNK1 and MKNK2/MNK2, two other kinases activated by p38 MAPKs, regulate protein synthesis by phosphorylating the initiation factor EIF4E2. MAPK14 interacts also with casein kinase II, leading to its activation through autophosphorylation and further phosphorylation of TP53/p53. In the cytoplasm, the p38 MAPK pathway is an important regulator of protein turnover. For example, CFLAR is an inhibitor of TNF-induced apoptosis whose proteasome-mediated degradation is regulated by p38 MAPK phosphorylation. In a similar way, MAPK14 phosphorylates the ubiquitin ligase SIAH2, regulating its activity towards EGLN3. MAPK14 may also inhibit the lysosomal degradation pathway of autophagy by interfering with the intracellular trafficking of the transmembrane protein ATG9. Another function of MAPK14 is to regulate the endocytosis of membrane receptors by different mechanisms that impinge on the small GTPase RAB5A. In addition, clathrin-mediated EGFR internalization induced by inflammatory cytokines and UV irradiation depends on MAPK14-mediated phosphorylation of EGFR itself as well as of RAB5A effectors. Ectodomain shedding of transmembrane proteins is regulated by p38 MAPKs as well. In response to inflammatory stimuli, p38 MAPKs phosphorylate the membrane-associated metalloprotease ADAM17. Such phosphorylation is required for ADAM17-mediated ectodomain shedding of TGF-alpha family ligands, which results in the activation of EGFR signaling and cell proliferation. Another p38 MAPK substrate is FGFR1. FGFR1 can be translocated from the extracellular space into the cytosol and nucleus of target cells, and regulates processes such as rRNA synthesis and cell growth. FGFR1 translocation requires p38 MAPK activation. In the nucleus, many transcription factors are phosphorylated and activated by p38 MAPKs in response to different stimuli. Classical examples include ATF1, ATF2, ATF6, ELK1, PTPRH, DDIT3, TP53/p53 and MEF2C and

MEF2A. The p38 MAPKs are emerging as important modulators of gene expression by regulating chromatin modifiers and remodelers. The promoters of several genes involved in the inflammatory response, such as IL6, IL8 and IL12B, display a p38 MAPK-dependent enrichment of histone H3 phosphorylation on '\\Ser-10\\' (H3S10ph) in LPS-stimulated myeloid cells. This phosphorylation enhances the accessibility of the cryptic NF-kappa-B-binding sites marking promoters for increased NF-kappa-B recruitment. Phosphorylates CDC25B and CDC25C which is required for binding to 14-3-3 proteins and leads to initiation of a G2 delay after ultraviolet radiation. Phosphorylates TIAR following DNA damage, releasing TIAR from GADD45A mRNA and preventing mRNA degradation. The p38 MAPKs may also have kinase-independent roles, which are thought to be due to the binding to targets in the absence of phosphorylation. Protein O-Glc-N-acylation catalyzed by the OGT is regulated by MAPK14, and, although OGT does not seem to be phosphorylated by MAPK14, their interaction increases upon MAPK14 activation induced by glucose deprivation. This interaction may regulate OGT activity by recruiting it to specific targets such as neurofilament H, stimulating its O-Glc-N-acylation. Required in mid-fetal development for the growth of embryo-derived blood vessels in the labyrinth layer of the placenta. Also plays an essential role in developmental and stress-induced erythropoiesis, through regulation of EPO gene expression. Isoform MXI2 activation is stimulated by mitogens and oxidative stress and only poorly phosphorylates ELK1 and ATF2. Isoform EXIP may play a role in the early onset of apoptosis. Phosphorylates S100A9 at '\\Thr-113\\'.

Aliases: CSAID Binding Protein 1 antibody, CSAID binding protein antibody, CSAID-binding protein antibody, Csaid binding protein antibody, CSBP 1 antibody, CSBP 2 antibody, CSBP antibody, CSBP1 antibody, CSBP2 antibody, CSPB1 antibody, Cytokine suppressive anti-inflammatory drug-binding protein antibody, EXIP antibody, MAP kinase 14 antibody, MAP kinase MXI2 antibody, MAP kinase p38 alpha antibody, MAPK 14 antibody, MAPK14 antibody, MAX interacting protein 2 antibody, MAX-interacting protein 2 antibody, Mitogen Activated Protein Kinase 14 antibody, Mitogen activated protein kinase p38 alpha antibody, Mitogen-activated protein kinase 14 antibody, Mitogen-activated protein kinase p38 alpha antibody, MK14_HUMAN antibody, Mxi 2 antibody, MXI2 antibody, p38 ALPHA antibody, p38 antibody, p38 MAP kinase antibody, p38 MAPK antibody, p38 mitogen activated protein kinase antibody, p38ALPHA antibody, p38alpha Exip antibody, PRKM14 antibody, PRKM15 antibody, RK antibody, SAPK2A antibody, Stress-activated protein kinase 2a antibody

UniProt: [Q16539](#)

Pathways: [MAPK Signaling](#), [Neurotrophin Signaling Pathway](#), [Activation of Innate immune Response](#), [Cellular Response to Molecule of Bacterial Origin](#), [Regulation of Muscle Cell Differentiation](#), [Regulation of Cell Size](#), [Hepatitis C](#), [Toll-Like Receptors Cascades](#), [Autophagy](#), [Thromboxane A2](#)

Target Details

Receptor Signaling, BCR Signaling, S100 Proteins

Application Details

Application Notes: Recommended dilution: WB:1:1000-1:5000, IHC:1:200-1:500,

Restrictions: For Research Use only

Handling

Format: Liquid

Buffer: Preservative: 0.03 % Proclin 300
Constituents: 50 % Glycerol, 0.01M PBS, PH 7.4

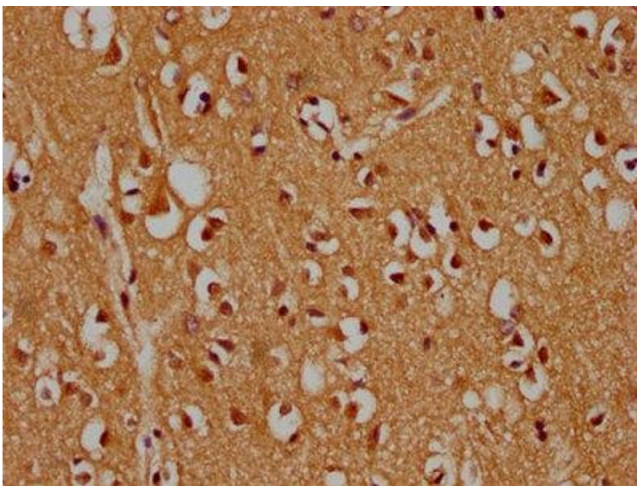
Preservative: ProClin

Precaution of Use: This product contains ProClin: a POISONOUS AND HAZARDOUS SUBSTANCE which should be handled by trained staff only.

Storage: -20 °C,-80 °C

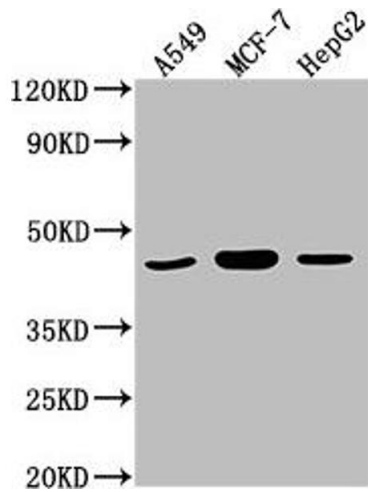
Storage Comment: Upon receipt, store at -20°C or -80°C. Avoid repeated freeze.

Images



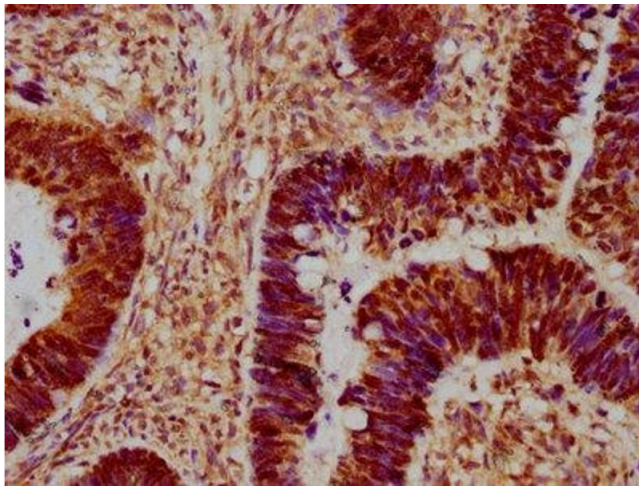
Immunohistochemistry

Image 1. IHC image of ABIN7159994 diluted at 1:300 and staining in paraffin-embedded human brain tissue performed on a Leica Bond™ system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.



Western Blotting

Image 2. Western Blot Positive WB detected in: A549 whole cell lysate, MCF-7 whole cell lysate, HepG2 whole cell lysate
 All lanes: MAPK14 antibody at 1:2000 Secondary Goat polyclonal to rabbit IgG at 1/50000 dilution Predicted band size: 42, 35, 36, 30 kDa Observed band size: 42 kDa



Immunohistochemistry

Image 3. IHC image of ABIN7159994 diluted at 1:300 and staining in paraffin-embedded human ovarian cancer performed on a Leica Bond™ system. After dewaxing and hydration, antigen retrieval was mediated by high pressure in a citrate buffer (pH 6.0). Section was blocked with 10% normal goat serum 30min at RT. Then primary antibody (1% BSA) was incubated at 4°C overnight. The primary is detected by a biotinylated secondary antibody and visualized using an HRP conjugated SP system.