p38 (PT0436R) PT® Rabbit mAb

Catalog#: AM8276 | Size: 30μL/50μL/100μL

Main Information

Target	Host Species	Reactivity	Application	MW	Conjugated/Modification
p38	Rabbit	Human, Mouse, Rat	WB, IHC, IF, IP, ELISA	41kD (Calculated) 41kD (Observed)	Unmodified

Detailed Information

Recommeded Dilution Ratio	WB 1:1000-1:5000; IHC 1:50-1:300; IF 1:200-1:1000; ELISA 1:5000-1:20000; IP 1:50-1:200
Formulation	PBS, 50% glycerol, 0.05% Proclin 300, 0.05%BSA.
Specificity	Endogenous
Purification	Protein A
Storage	-15°C to -25°C/1 year(Do not lower than -25°C)
MW(Calculated)	41kD
MW(Observed)	41kD
Modification	Unmodified
Clonality	Monoclonal
Clone Number	PT0436R
Isotype	IgG,Kappa

Antigen&Target Information

Specificity	Endogenous
Gene Name	MAPK14 CSBP CSBP1 CSBP2 CSPB1 MXI2 SAPK2A
Protein Name	p38
Other Name	Mitogen-activated protein kinase 14 ;MAP kinase 14 ;MAPK 14 ;Cytokine suppressive anti-inflammatory drug-binding protein ;CSAID-binding protein ;CSBP ;MAP kinase MXI2 ;MAX-interacting protein 2 ;Mitogen-activated protein kinase p38 alpha ;MAP kinase p38 alpha ;Stress-activated protein kinase 2a ;SAPK2a.

Database Link

Organism	Gene ID	SwissProt
Human	1432	Q16539
Mouse	26416	P47811
Rat		P70618

Background

The protein encoded by this gene is a member of the MAP kinase family. MAP kinases act as an integration point for multiple biochemical signals, and are involved in a wide variety of cellular processes such as proliferation, differentiation, transcription regulation and development. This kinase is activated by various environmental stresses and proinflammatory cytokines. The activation requires its phosphorylation by MAP kinase kinases (MKKs), or its autophosphorylation triggered by the interaction of MAP3K7IP1/TAB1 protein with this kinase. The substrates of this kinase include transcription regulator ATF2, MEF2C, and MAX, cell cycle regulator CDC25B, and tumor suppressor p53, which suggest the roles of this kinase in stress related transcription and cell cycle regulation, as well as in genotoxic stress response. Four alternatively spliced transcript variants of this gene encoding d.

Function

Catalytic activity:ATP + a protein = ADP + a phosphoprotein.,cofactor:Magnesium.,Domain:The TXY motif contains the threonine and tyrosine residues whose phosphorylation activates the MAP kinases.,enzyme regulation:Activated by threonine and tyrosine phosphorylation by either of two dual specificity kinases, MAP2K3 or MAP2K6, and potentially also MAP2K4. Inhibited by dual specificity phosphatases, such as DUSP1. Specifically inhibited by the binding of pyridinyl-imidazole compounds, which are cytokine-suppressive anti-inflammatory drugs (CSAID). Isoform Mxi2 is 100-fold less sensitive to these agents than the other isoforms and is not inhibited by DUSP1. Isoform Exip is not activated by MAP2K6.,Function:Responds to activation by environmental stress, pro-inflammatory cytokines and lipopolysaccharide (LPS) by phosphorylating a number of transcription factors, such as ELK1 and ATF2 and several downstream kinases, such as MAPKAPK2 and MAPKAPK5. Plays a critical role in the production of some cytokines, for example IL-6. May play a role in stabilization of EPO mRNA during hypoxic stress. 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.,online information:P38 mitogen-activated protein kinases entry,PTM:Dually phosphorylated on Thr-180 and Tyr-182, which activates the enzyme.,PTM:Phosphorylated upon DNA damage, probably by ATM or ATR.,similarity:Belongs to the protein kinase superfamily. CMGC Ser/Thr protein kinase family. MAP kinase subfamily.,similarity:Contains 1 protein kinase domain.,subunit:Binds to a kinase interaction motif within the protein tyrosine phosphatase, PTPRR. This interaction retains MAPK14 in the cytoplasm and prevents nuclear accumulation. Interacts with SPAG9 (By similarity). Interacts with NP60 and FAM48A.,tissue specificity:Brain, heart, placenta, pancreas and skeletal muscle. Expressed to a lesser extent in lung, liver and kidney.

Cellular Localization

Cytoplasm, Nucleus.

Tissue Expression

Brain, heart, placenta, pancreas and skeletal muscle. Expressed to a lesser extent in lung, liver and kidney.

Research Areas

- Endocrine resistance
- MAPK signaling pathway
- Rap1 signaling pathway
- FoxO signaling pathway
- Sphingolipid signaling pathway
- Oocyte meiosis
- Cellular senescence
- Adrenergic signaling in cardiomyocytes
- VEGF signaling pathway

- Osteoclast differentiation
- Signaling pathways regulating pluripotency of stem cells
- Platelet activation
- Neutrophil extracellular trap formation
- Toll-like receptor signaling pathway
- NOD-like receptor signaling pathway
- RIG-I-like receptor signaling pathway
- C-type lectin receptor signaling pathway
- IL-17 signaling pathway
- Th1 and Th2 cell differentiation
- Th17 cell differentiation
- T cell receptor signaling pathway
- Fc epsilon RI signaling pathway
- TNF signaling pathway
- Leukocyte transendothelial migration
- Thermogenesis
- Neurotrophin signaling pathway
- Retrograde endocannabinoid signaling
- Dopaminergic synapse
- Inflammatory mediator regulation of TRP channels
- GnRH signaling pathway
- Progesterone-mediated oocyte maturation
- Prolactin signaling pathway
- Relaxin signaling pathway
- Non-alcoholic fatty liver disease
- AGE-RAGE signaling pathway in diabetic complications
- Growth hormone synthesis, secretion and action
- Alcoholic liver disease
- Amyotrophic lateral sclerosis
- Prion disease
- Pathways of neurodegeneration - multiple diseases
- Epithelial cell signaling in Helicobacter pylori infection
- Pathogenic Escherichia coli infection
- Shigellosis
- Salmonella infection
- Pertussis
- Yersinia infection
- Leishmaniasis
- Chagas disease
- Toxoplasmosis
- Tuberculosis
- Hepatitis B
- Human cytomegalovirus infection
- Kaposi sarcoma-associated herpesvirus infection
- Epstein-Barr virus infection
- Human immunodeficiency virus 1 infection
- Coronavirus disease - COVID-19
- Proteoglycans in cancer
- Chemical carcinogenesis - reactive oxygen species
- PD-L1 expression and PD-1 checkpoint pathway in cancer
- Diabetic cardiomyopathy
- Lipid and atherosclerosis
- Fluid shear stress and atherosclerosis

Signaling Pathway

Cellular Processes >> Cell growth and death >> Cellular senescence
Cellular Processes >> Cellular community - eukaryotes >> Signaling pathways regulating pluripotency of stem cells
Organismal Systems >> Immune system >> Platelet activation
Organismal Systems >> Immune system >> Neutrophil extracellular trap formation
Organismal Systems >> Immune system >> Toll-like receptor signaling pathway

Organismal Systems >> Immune system >> NOD-like receptor signaling pathway
Organismal Systems >> Immune system >> RIG-I-like receptor signaling pathway
Organismal Systems >> Immune system >> T cell receptor signaling pathway
Organismal Systems >> Immune system >> Th1 and Th2 cell differentiation
Organismal Systems >> Immune system >> Th17 cell differentiation
Organismal Systems >> Immune system >> IL-17 signaling pathway
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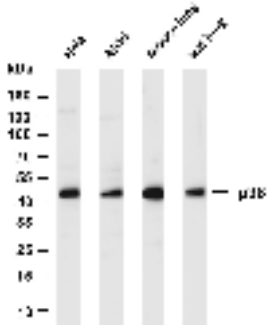
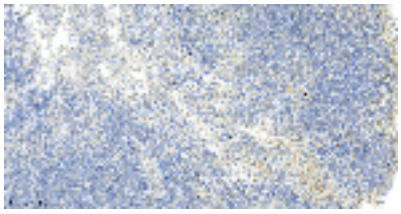
Organismal Systems >> Endocrine system >> GnRH signaling pathway
Organismal Systems >> Endocrine system >> Prolactin signaling pathway
Organismal Systems >> Endocrine system >> Relaxin signaling pathway
Organismal Systems >> Endocrine system >> Growth hormone synthesis, secretion and action
Organismal Systems >> Circulatory system >> Adrenergic signaling in cardiomyocytes
Organismal Systems >> Nervous system >> Dopaminergic synapse
Organismal Systems >> Nervous system >> Neurotrophin signaling pathway
Organismal Systems >> Sensory system >> Inflammatory mediator regulation of TRP channels
Organismal Systems >> Development and regeneration >> Osteoclast differentiation
Human Diseases >> Cancer: overview >> PD-L1 expression and PD-1 checkpoint pathway in cancer
Human Diseases >> Neurodegenerative disease >> Amyotrophic lateral sclerosis
Human Diseases >> Neurodegenerative disease >> Prion disease
Human Diseases >> Neurodegenerative disease >> Pathways of neurodegeneration - multiple diseases
Environmental Information Processing >> Signal transduction >> MAPK signaling pathway
Environmental Information Processing >> Signal transduction >> Rap1 signaling pathway
Environmental Information Processing >> Signal transduction >> VEGF signaling pathway
Environmental Information Processing >> Signal transduction >> TNF signaling pathway
Environmental Information Processing >> Signal transduction >> FoxO signaling pathway
Environmental Information Processing >> Signal transduction >> Sphingolipid signaling pathway

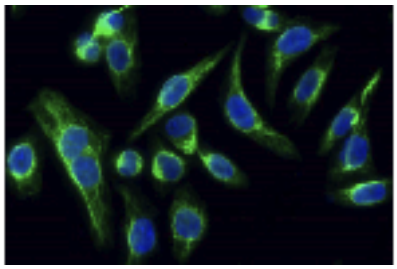
Validation Data



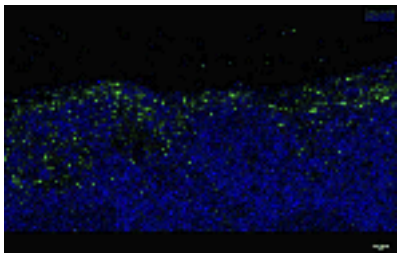
Various whole cell lysates were separated by 4-20% SDS-PAGE, and the membrane was blotted with anti-p38 antibody. The HRP-conjugated Goat anti-Rabbit IgG(H + L) antibody was used to detect the antibody. Lane 1: Hela Lane 2: A549 Lane 3: Mouse lung Lane 4: Rat lung Predicted band size: 41kDa Observed band size: 41kDa.



Rat Mesenteric lymph nodes was stained with anti-p38 Rabbit antibody



Immunofluorescence analysis of Hela cell. 1,p38 Antibody(green) was diluted at 1:200(4° overnight). 2, Goat Anti Rabbit Alexa Fluor 488 Catalog:RS3211 was diluted at 1:1000(room temperature, 50min). 3 DAPI(blue) 10min.



Rat Mesenteric lymph nodes was stained with anti-p38 Rabbit antibody

Contact Information

+886-32876194 www.acebiolab.com Order: order@acebiolab.com Support: service@acebiolab.com
RM. 7, 13F., NO. 268, SEC. 1, GAOTIEZHANQIAN W. RD., ZHONGLI DIST., TAOYUAN CITY 320016 , TAIWAN (R.O.C.)