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Anti-p38 alpha/MAPK14 Antibody Picoband®

Catalog Number: A00176-2

About MAPK14

Mitogen-activated protein kinase 14, also called p38-alpha, is an enzyme that in humans is encoded by the MAPK14 gene. 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 distinct isoforms have been reported.

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Overview

Product Name	Anti-p38 alpha/MAPK14 Antibody Picoband®
Reactive Species	Human, Mouse, Rat
Description	Boster Bio Anti-p38 alpha/MAPK14 Antibody Picoband® catalog # A00176-2. Tested in Flow Cytometry, IP, ICC/IF, IHC, WB applications. This antibody reacts with Human, Mouse, Rat. The brand Picoband indicates this is a premium antibody that guarantees superior quality, high affinity, and strong signals with minimal background in Western blot applications. Only our best-performing antibodies are designated as Picoband, ensuring unmatched performance.
Application	Flow Cytometry, IP, IF, IHC, ICC, WB
Clonality	Polyclonal
Formulation	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
Storage Instructions	At -20°C for one year from date of receipt. After reconstitution, at 4°C for one month. It can also be aliquotted and stored frozen at -20°C for six months. Avoid repeated freezing and thawing.
Host	Rabbit
Uniprot ID	Q16539

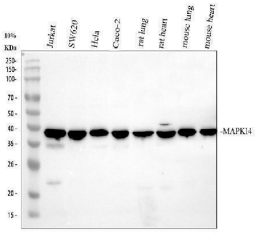
Technical Details

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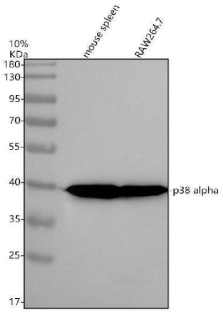
Immunogen	A synthetic peptide corresponding to a sequence at the C-terminus of human p38 alpha/MAPK14, identical to the related mouse and rat sequences.
Cross Reactivity	No cross-reactivity with other proteins.
Isotype	Rabbit IgG
Form	Lyophilized
Concentration	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml.
Purification	Immunogen affinity purified.
Suggested Dilutions	Western blot, 0.25-0.5 ug/ml, Human, Mouse, Rat Immunohistochemistry(Paraffin-embedded Section), 2-5 ug/ml, Human, Mouse, Rat Immunocytochemistry/Immunofluorescence, 5 ug/ml, Human Immunoprecipitation, 0.5-2 ug/ml, Human Flow Cytometry (Fixed), 1-3 ug/1x10^6 cells, Human Note: For flow cytometry (FCM), suitable for fixed cells only. Not suitable for FACS or surface flow cytometry using live cells.

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Anti-p38 alpha/MAPK14 Antibody Picoband® (A00176-2) Images



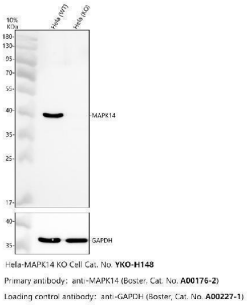
Western blot analysis of p38 alpha/MAPK14 using anti-p38 alpha/MAPK14 antibody (A00176-2). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Jurkat whole cell lysates, Lane 2: human SW620 whole cell lysates, Lane 3: human Hela whole cell lysates, Lane 4: human CACO-2 whole cell lysates, Lane 5: rat lung tissue lysates, Lane 6: rat heart tissue lysates, Lane 7: mouse lung tissue lysates, Lane 8: mouse heart tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-p38 alpha/MAPK14 antigen affinity purified polyclonal antibody (A00176-2) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for p38 alpha/MAPK14 at approximately 38 kDa. The expected band size for p38 alpha/MAPK14 is at 41 kDa.



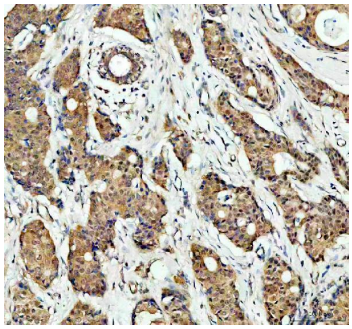
Western blot analysis of p38 alpha using anti-p38 alpha antibody (A00176-2). Electrophoresis was performed on a 8% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: mouse spleen tissue lysates, Lane 2: mouse RAW264.7 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-p38 alpha antigen affinity purified polyclonal antibody (A00176-2) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween-20 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054) at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for p38 alpha at approximately 41 kDa. The expected band size for p38 alpha is at 41 kDa.

Western blot analysis of p38 MAPK/MAPK14 using anti-p38 MAPK/MAPK14 antibody (A00176-2). Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. The sample well of each lane was loaded with 30 ug of sample under reducing conditions. Lane 1: human Hela- WT whole cell lysates, Lane 2: human Hela-MAPK14 KO whole cell lysates.After

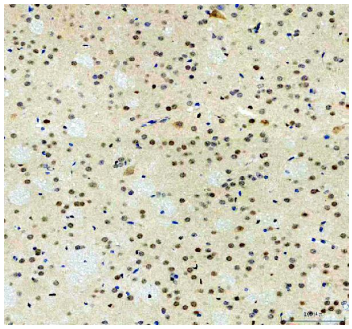
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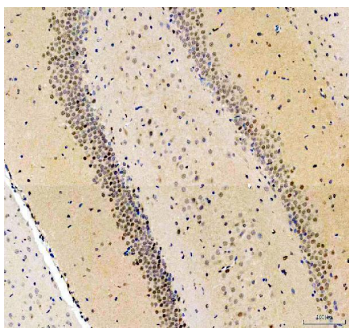
electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-p38 MAPK/MAPK14 antigen affinity purified polyclonal antibody (A00176-2) at 0.5 ug/mL overnight at 4°C, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal is developed using an ECL Plus Western Blotting Substrate (Catalog # AR1196-200) with Tanon 5200 system. A specific band was detected for p38 MAPK/MAPK14 at approximately 38 kDa. The expected band size for p38 MAPK/MAPK14 is at 41 kDa.



IHC analysis of p38 alpha/MAPK14 using anti-p38 alpha/MAPK14 antibody (A00176-2). p38 alpha/MAPK14 was detected in a paraffin-embedded section of human breast cancer tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-p38 alpha/MAPK14 Antibody (A00176-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

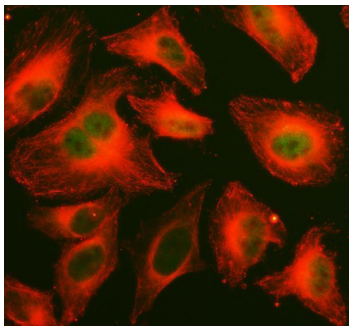


IHC analysis of p38 alpha/MAPK14 using anti-p38 alpha/MAPK14 antibody (A00176-2). p38 alpha/MAPK14 was detected in a paraffin-embedded section of mouse brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-p38 alpha/MAPK14 Antibody (A00176-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

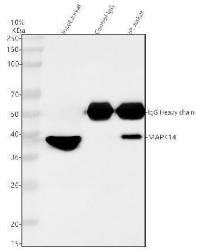


IHC analysis of p38 alpha/MAPK14 using anti-p38 alpha/MAPK14 antibody (A00176-2). p38 alpha/MAPK14 was detected in a paraffin-embedded section of rat brain tissue. Heat mediated antigen retrieval was performed in EDTA buffer (pH 8.0, epitope retrieval solution). The tissue section was blocked with 10% goat serum. The tissue section was then incubated with 2 ug/ml rabbit anti-p38 alpha/MAPK14 Antibody (A00176-2) overnight at 4°C. Peroxidase Conjugated Goat Anti-rabbit IgG was used as secondary antibody and incubated for 30 minutes at 37°C. The tissue section was developed using HRP Conjugated Rabbit IgG Super Vision Assay Kit (Catalog # SV0002) with DAB as the chromogen.

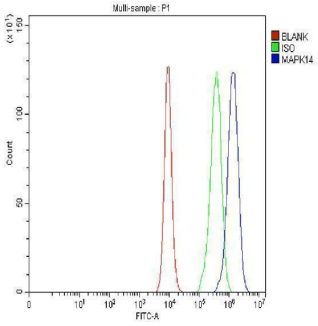
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IF analysis of P38 Alpha/MAPK14 using anti-P38 Alpha/MAPK14 antibody (A00176-2) and anti-Alpha Tubulin antibody (M03989-3). P38 Alpha/MAPK14 was detected in an immunocytochemical section of Hela cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent (AR0022) for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/mL rabbit anti-P38 Alpha/MAPK14 Antibody (A00176-2) and mouse anti-Alpha Tubulin antibody (M03989-3) overnight at 4°C. Fluoro488 Conjugated Goat Anti-Rabbit IgG (BA1127) and Cy3 Conjugated Goat Anti-Mouse IgG (BA1031) were used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37°C. Visualize using a fluorescence microscope and filter sets appropriate for the label used.



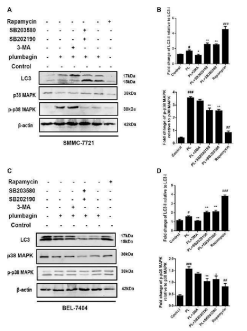
Immunoprecipitating p38 alpha/MAPK14 in Jurkat whole cell lysate. Western blot analysis of p38 alpha/MAPK14 using anti-p38 alpha/MAPK14 antibody (A00176-2); Lane 1: Jurkat whole cell lysates (30ug); Lane 2: Rabbit control IgG instead of anti-p38 alpha/MAPK14 antibody in Jurkat whole cell lysate; Lane 3: anti-p38 alpha/MAPK14 antibody (2ug) + Jurkat whole cell lysate (500ug). After electrophoresis, proteins were transferred to a membrane. Then the membrane was incubated with rabbit anti-p38 alpha/MAPK14 antigen affinity purified polyclonal antibody (A00176-2) at a dilution of 0.5 ug/mL and probed with a goat anti-rabbit IgG-HRP secondary antibody (Catalog # BA1054). The signal is developed using ECL Plus Western Blotting Substrate (Catalog # AR1196-200). A specific band was detected for p38 alpha/MAPK14 at approximately 38 kDa. The expected band size for p38 alpha/MAPK14 is at 41 kDa.



Flow Cytometry analysis of CACO-2 cells using anti-P38 Alpha/MAPK14 antibody (A00176-2). Overlay histogram showing CACO-2 cells stained with A00176-2 (Blue line). To facilitate intracellular staining, cells were fixed with 4% paraformaldehyde and permeabilized with permeabilization buffer. The cells were blocked with 10% normal goat serum. And then incubated with rabbit anti-P38 Alpha/MAPK14 Antibody (A00176-2, 1 ug/1x106 cells) for 30 min at 20°C. DyLight®488 conjugated goat anti-rabbit IgG (BA1127, 5-10 ug/1x106 cells) was used as secondary antibody for 30 minutes at 20°C. Isotype control antibody (Green line) was rabbit IgG (1 ug/1x106) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

(A) Protein expression levels of LC3-I, LC3-II, p38 MAPK, and p-p38 MAPK in SMMC-7721 cells measured by Western blot after treatment with 5 uM PL, 10 uM 3-MA autophagy inhibitor, 10 uM rapamycin autophagy agonist, 10 uM SB202190, and 10 uM SB203580 p38 MAPK inhibitor. (B) LC3-I, LC3-II, p38 MAPK, and p-p38 MAPK were used as internal reference total proteins for gray value analysis. * $p < 0.05$, ** $p < 0.01$ *** $p < 0.001$, compared with the PL group. # $p < 0.05$, ## $p < 0.01$ ### $p < 0.001$ vs. the

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control group. (C) Protein expression levels of LC3-I, LC3-II, p38 MAPK, and p-p38 MAPK in BEL-7404 cells measured by Western blot after treatment with 5 uM PL, 10 uM 3-MA autophagy inhibitor, 10 uM rapamycin autophagy agonist, 10 uM SB202190, and 10 uM SB203580 p38 MAPK inhibitor. (D) LC3-I, LC3-II, p38 MAPK, and p-p38 MAPK were used as internal reference total proteins for gray value analysis. * p < 0.05, ** p < 0.01 *** p < 0.001, compared with the PL group. # p < 0.05, ## p < 0.01 ### p < 0.001 vs. the control group.Index in PubMed under a CC BY license. PMID: 33912033

4 Publications Citing This Product

1. PubMed ID: 10.1007/s12031-017-0994-x, Let-7d microRNA Attenuates 6-OHDA-Induced Injury by Targeting Caspase-3 in MN9D Cells

2. PubMed ID: 10.1016/j.ijbiomac.2017.05.191, beta-d-glucan from Antrodia Camphorata ameliorates LPS-induced inflammation and ROS production in human hepatocytes

3. PubMed ID: 10.1016/j.jep.2017.03.012, The vascular protective effects of Anoectochilus roxburghii polysaccharose under high glucose conditions

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