abcam

ab33918

Anti-MEKK2 antibody [EP626Y]

Recombinant | RabMAb | KO Validated

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EP626Y
Purification technique	Affinity purification Protein A
Concentration	0.608 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

WB

Tested

Species	Human
Dilution info	1/10000 - 1/50000
Notes	-

Species	Mouse

Dilution info	-
Notes	-

Species	Rat
Dilution info	1/10000 - 1/50000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/250 - 1/500
Notes	-

Expected

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

IP

Tested

Species	Human
Dilution info	1/40
Notes	-

Expected

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

IHC-Fr

Expected

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

Flow Cyt (Intra)

Tested

Species	Human
Dilution info	1/50 - 1/120
Notes	ab172730 - Rabbit monoclonal IgG, is suitable for use as an isotype control with this antibody.

Expected

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

IHC-P

Tested

Species	Mouse
Dilution info	1/100
Notes	-

Species	Rat
Dilution info	1/100
Notes	-

Species	Human
Dilution info	1/100
Notes	-

Target data

See full target information MAP3K2

Function	Component of a protein kinase signal transduction cascade. Regulates the JNK and ERK5 pathways by phosphorylating and activating MAP2K5 and MAP2K7 (By similarity). Plays a role in caveolae kiss-and-run dynamics.

Storage

Shipped at conditions	Conditional Ambient
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

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

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	MEKK2 also known as MAP3K2 is a kinase enzyme with an approximate mass of 70 kDa. It functions as part of the MAP kinase signaling pathway where it

	phosphorylates downstream proteins playing an essential role in transmitting signals within cells. This protein is mainly expressed in tissues such as the brain heart and liver. It acts by activating specific MAP kinase pathways facilitating various cellular responses to external stimuli.
Biological function summary	This kinase serves as a critical mediator in cellular processes like proliferation differentiation and apoptosis. MEKK2 forms part of larger signaling complexes including the MAP3K complex where it regulates multiple cellular activities. Through its kinase activity MEKK2 passes on signals that affect gene expression and cellular stress responses impacting how cells react to their environment.
Pathways	MEKK2 functions prominently in the MAPK signaling and NF-kB pathways. These pathways involve signal transduction mechanisms that MEKK2 influences through its interactions with related proteins such as MEK5 and ERK5. By modulating these pathways MEKK2 participates in a variety of cellular responses including inflammation and immune responses.
Associated diseases and disorders	MEKK2 has associations with conditions like cancer and inflammatory diseases. Aberrant expression of MEKK2 can affect the behavior of cancer cells due to its influence on the MAPK pathway's signaling leading to unchecked cell growth. Additionally MEKK2 interacts with proteins like NF-kB which are important in inflammation thereby implicating it in disorders related to immune system dysfunctions.

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

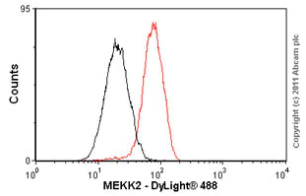
We do not recommend this combination. It is not covered by our product promise.

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.

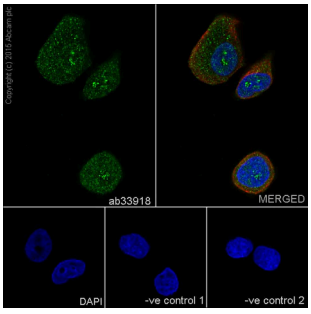
15 product images



Flow Cytometry (Intracellular) - Anti-MEKK2 antibody [EP626Y] (ab33918)

MEKK2 Flow Cytometry (Intracellular) staining using rabbit Anti-MEKK2 antibody

Overlay histogram showing HepG2 cells stained with unpurified ab33918 (red line). The cells were fixed with 80% methanol (5 min) and then permeabilized with 0.1% PBS-Tween for 20 min. The cells were then incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions followed by the antibody (ab33918, 1/50 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-rabbit IgG (H+L) (ab96899) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was rabbit IgG (monoclonal) (1µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed.

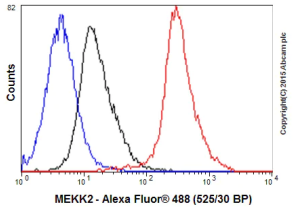


Immunocytochemistry/ Immunofluorescence - Anti-MEKK2 antibody [EP626Y] (ab33918)

MEKK2 Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-MEKK2 antibody

ab33918 staining MEKK2 in MCF-7 (human breast carcinoma) cells by ICC/IF (Immunocytochemistry/immunofluorescence). Cells were fixed with 4% Paraformaldehyde and permeabilized with 0.1% Triton X-100. Samples were incubated with primary antibody at a dilution of 1/100. A goat anti rabbit IgG (Alexa Fluor® 488) (ab150077) was used as the secondary antibody at a dilution of 1/1000. ab7291 and ab150120 were used as counterstains for primary antibody ab75748 and secondary antibody ab150077 respectively and DAPI was used as a nuclear counterstain.

Negative control 1: Rabbit primary antibody and anti-mouse secondary antibody (ab150120)
Negative control 2: Mouse primary antibody (ab7291) and anti-rabbit secondary antibody (ab150077)

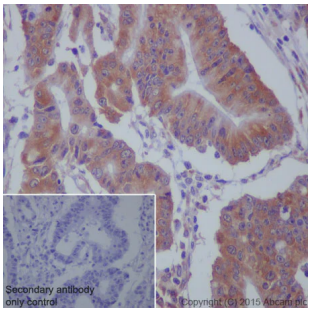


Flow Cytometry (Intracellular) - Anti-MEKK2 antibody [EP626Y] (ab33918)

MEKK2 Flow Cytometry (Intracellular) staining using rabbit Anti-MEKK2 antibody

ab33918 staining MEKK2 in Jurkat (human acute T cell leukemia) cellsby intracellular flow cytometry. Cells were fixed with 4% paraformaldehyde and the sample was incubated with the primary antibody at a dilution of 1/120. A goat anti rabbit IgG (Alexa Fluor® 488) at a dilution of 1/500 was used as the secondary antibody.
Isoytype control: Rabbit monoclonal IgG (Black)

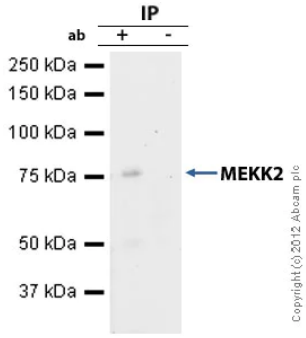
Unlabelled control: Cell without incubation with primary antibody and secondary antibody (Blue)



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MEKK2 antibody [EP626Y] (ab33918)

MEKK2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MEKK2 antibody

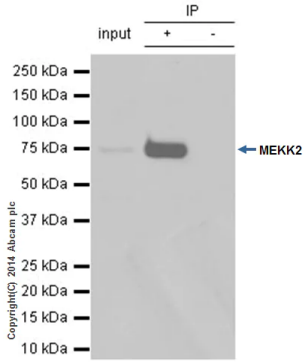
ab33918 staining MEKK2 in human colon carcinoma tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/100. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.
Negative control 1: PBS in place of primary antibody.



Immunoprecipitation - Anti-MEKK2 antibody [EP626Y] (ab33918)

MEKK2 was immunoprecipitated using 0.5mg HepG2 whole cell extract, 10µg of unpurified Rabbit monoclonal [EP626Y] to MEKK2 and 50µl of protein G magnetic beads (+). No antibody was added to the control (-).
The antibody was incubated under agitation with Protein G beads for 10min, HepG2 whole cell extract lysate diluted in RIPA buffer was added to each sample and incubated for a further 10min under agitation.
Proteins were eluted by addition of 40µl SDS loading buffer and incubated for 10min at 70°C; 10µl of each sample was separated on a SDS PAGE gel, transferred to a nitrocellulose membrane, blocked with 5% BSA and probed with ab33918.
Secondary: Mouse monoclonal [SB62a] Secondary Antibody to Rabbit IgG light chain (HRP) (ab99697) .
Band: 75kDa: MEKK2.
All lanes:
Immunoprecipitation - Anti-MEKK2 antibody [EP626Y] (ab33918)

Predicted band size: 70 kDa

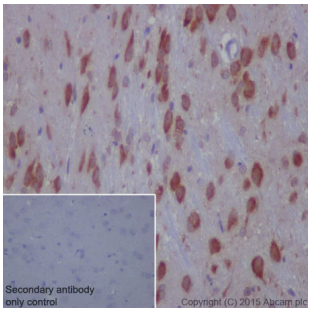


Immunoprecipitation - Anti-MEKK2 antibody [EP626Y] (ab33918)

ab33918 immunoprecipitating MEKK2. 10µg of cell lysate was incubated with primary antibody at a dilution of 1/40 and VeriBlot for IP Detection Reagent (HRP) (ab131366) at a dilution of 1/10000.
Lane 1: HepG2 (human hepatocellular carcinoma) whole cell lysate (10ug)
Lane 2: HepG2 (human hepatocellular carcinoma) whole cell lysate
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab33918 in HepG2 (human hepatocellular carcinoma) whole cell lysate

All lanes:
Immunoprecipitation - Anti-MEKK2 antibody [EP626Y] (ab33918)

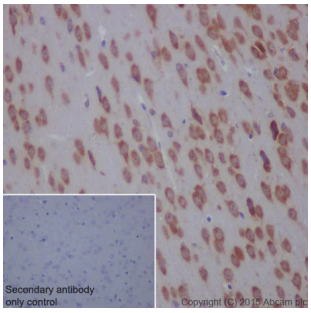
Predicted band size: 70 kDa



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MEKK2 antibody [EP626Y] (ab33918)

MEKK2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MEKK2 antibody

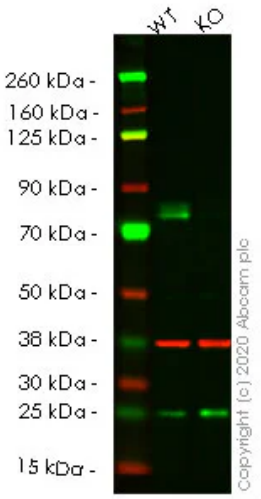
ab33918 staining MEKK2 in rat cerebral cortex tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/100. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.
Negative control 1: PBS in place of primary antibody.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-MEKK2 antibody [EP626Y] (ab33918)

MEKK2 Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-MEKK2 antibody

ab33918 staining MEKK2 in mouse cerebral cortex tissue sections by Immunohistochemistry (IHC-P - paraformaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and antigen retrieval was by heat mediation in a EDTA buffer. Samples were incubated with primary antibody at a dilution of 1/100. A goat anti-rabbit IgG H&L (HRP) ab97051 was used as the secondary antibody at a dilution of 1/500.
Negative control 1: PBS in place of primary antibody.



Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918)

MEKK2 Western blot staining using rabbit Anti-MEKK2 antibody

Lanes 1- 2: Merged signal (red and green). Green - ab33918 observed at 75 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.
ab33918 was shown to react with MEKK2 in wild-type A549 cells in western blot. Loss of signal was observed when knockout cell line ab267152 (knockout cell lysate ab257521) was used. Wild-type A549 and MAP3K2 knockout A549 cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab33918 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) overnight at 4°C at a 1 in 10000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918) at 1/10000 dilution

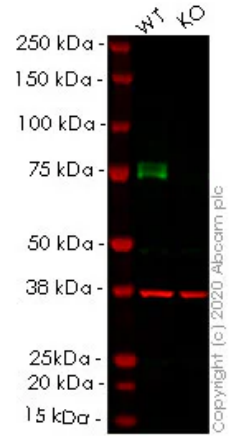
Lane 1:
Wild-type A549 cell lysate at 20 µg

Lane 2:
Western blot - Human MAP3K2 (MEKK2) knockout A549 cell lysate (ab257521) at 20 µg

Performed under reducing conditions.

Predicted band size: 70 kDa

Observed band size: 75 kDa



Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918)

MEKK2 Western blot staining using rabbit Anti-MEKK2 antibody

Lanes 1- 2: Merged signal (red and green). Green - ab33918 observed at 75 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.
ab33918 was shown to react with MEKK2 in wild-type A549 cells in western blot. Loss of signal was observed when knockout cell line ab267153 (knockout cell lysate ab257522) was used. Wild-type A549 and MAP3K2 knockout A549 cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab33918 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) overnight at 4°C at a 1 in 10000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918) at 1/10000 dilution

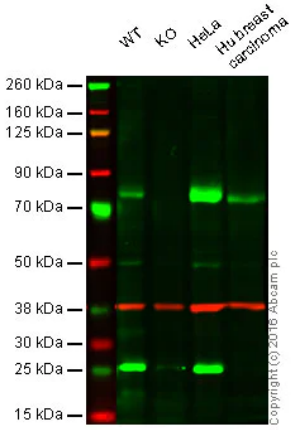
Lane 1:
Wild-type A549 cell lysate at 20 µg

Lane 2:
Western blot - Human MAP3K2 (MEKK2) knockout A549 cell lysate (ab257522) at 20 µg

Performed under reducing conditions.

Predicted band size: 70 kDa

Observed band size: 75 kDa

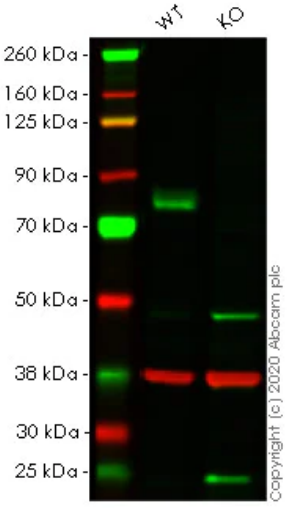


Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918)

MEKK2 Western blot staining using rabbit Anti-MEKK2 antibody

Lane 1: Wild-type HAP1 cell lysate (20 µg)
Lane 2: MEKK2 knockout HAP1 cell lysate (20 µg)
Lane 3: HeLa cell lysate (20 µg)
Lane 4: Human breast carcinoma lysate (20 µg)
Lanes 1 - 4: Merged signal (red and green). Green - ab33918 observed at 75 kDa. Red - loading control, ab8245, observed at 37 kDa.
ab33918 was shown to recognize MEKK2 when MEKK2 knockout samples were used, along with additional cross-reactive bands. Wild-type and MEKK2 knockout samples were subjected to SDS-PAGE. ab33918 and ab8245 (loading control to GAPDH) were both diluted 1/10 000 and incubated overnight at 4°C. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye® 800CW) preadsorbed (ab216773) andGoat anti-Mouse IgG H&L (IRDye® 680RD) preadsorbed (ab216776) secondary antibodies at 1/10000 dilution for 1 h at room temperature before imaging.
All lanes:
Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918)

Predicted band size: 70 kDa



Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918)

Lanes 1- 2: Merged signal (red and green). Green - ab33918 observed at 75 kDa. Red - Anti-GAPDH antibody [6C5] - Loading Control (ab8245) observed at 37 kDa.
ab33918 was shown to react with MEKK2 in wild-type HeLa cells in western blot. Loss of signal was observed when knockout cell line ab264944 (knockout cell lysate ab257520) was used. Wild-type HeLa and MAP3K2 knockout HeLa cell lysates were subjected to SDS-PAGE. Membrane was blocked for 1 hour at room temperature in 0.1% TBST with 3% non-fat dried milk. ab33918 and Anti-GAPDH antibody [6C5] - Loading Control (ab8245) were incubated overnight at 4°C at a 1 in 10000 dilution and a 1 in 20000 dilution respectively. Blots were developed with Goat anti-Rabbit IgG H&L (IRDye®800CW) preadsorbed (ab216773) and Goat anti-Mouse IgG H&L (IRDye®680RD) preadsorbed (ab216776) secondary antibodies at 1 in 20000 dilution for 1 hour at room temperature before imaging.

All lanes:
Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918) at 1/10000 dilution

Lane 1:
Wild-type HeLa cell lysate at 20 µg

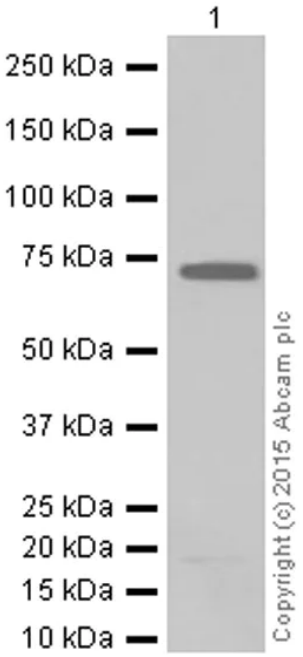
Lane 2:
MAP3K2 knockout HeLa cell lysate at 20 µg

Lane 2:
Western blot - Human MAP3K2 (MEKK2) knockout HeLa cell line (ab264944)

Performed under reducing conditions.

Predicted band size: 70 kDa

Observed band size: 75 kDa



Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918)

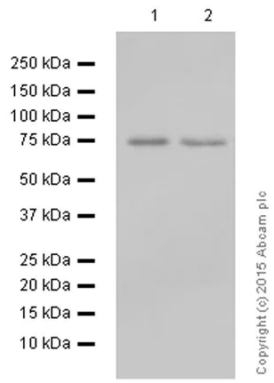
All lanes:
Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918) at 1/20000 dilution

All lanes:
K562 (human chronic myelogenous leukemia) whole cell lysate at 10 µg

Secondary

All lanes:
Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) at 1/20000 dilution

Predicted band size: 70 kDa



Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918)

All lanes:
Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918) at 1/20000 dilution

Lane 1:
Jurkat (human acute T cell leukemia) whole cell lysate at 20 µg

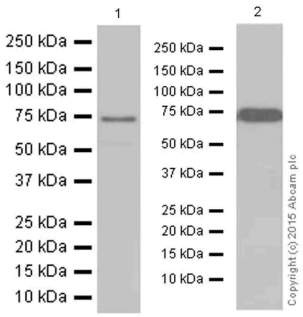
Lane 2:
HeLa (human cervix adenocarcinoma) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 70 kDa

Observed band size: 70 kDa



Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918)

All lanes:
Western blot - Anti-MEKK2 antibody [EP626Y] (ab33918) at 1/20000 dilution

Lane 1:
C6 (rat glioma) whole cell lysate at 20 µg

Lane 2:
NIH/3T3 (mouse embryo) whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/20000 dilution

Predicted band size: 70 kDa

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