abcam

Product datasheet

Anti-TNF alpha antibody [52B83] ab1793

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Overview

Product name	Anti-TNF alpha antibody [52B83]
Description	Mouse monoclonal [52B83] to TNF alpha
Host species	Mouse
Specificity	This antibody detects both natural and recombinant TNFa. It does not cross-react with TNF beta or lymphotoxin. It reacts with free soluble (17 kDa) and membrane (26 kDa) human TNF-alpha. It does not react with receptor-bound TNF-alpha. Non-specific background staining is observed in connective tissues.
Tested applications	**Suitable for:** Flow Cyt, IHC-Fr, ICC/IF, ELISA, WB, IHC-P
Species reactivity	**Reacts with:** Mouse, Guinea pig, Human, Chimpanzee, Zebrafish, Cynomolgus monkey, Rhesus monkey, Apteronotus leptorhynchus
Immunogen	Full length native protein (purified) (Human).
Positive control	Purchase matching WB positive control: **Recombinant Human TNF alpha protein** ›
General notes	Dilution of 20-200 times is useful for IHC on paraffin embedded tissues and frozen sections; flow cytometry and Western blotting. Useful for staining classic paraffin embedded tissues without antigen retrieval.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C. Avoid freeze / thaw cycles.
Storage buffer	Preservative: 0.02% Sodium azide Constituents: 0.1% BSA, PBS
Purity	Protein G purified
Clonality	Monoclonal
Clone number	52B83
Myeloma	unknown
Isotype	IgG1
Light chain type	unknown

Applications

Our Abpromise guarantee covers the use of **ab1793** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
Flow Cyt		1/10. (methanol fixed cells) ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.
IHC-Fr	★★★★★	1/50. Fixed in acetone for 10 minutes
ICC/IF	★★★★★	Use at an assay dependent concentration.
ELISA		Use at an assay dependent concentration.
WB	★★★★☆	Use at an assay dependent concentration. Detects a band of approximately 17 kDa. TNF-alpha is normally secreted as a homotrimer with a molecular mass of 52 kDa. Monomeric TNF-alpha is 17.4 kDa A reduced sample treatment and 15% SDS-Page was used.
IHC-P	★★★★☆	1/50. Perform heat mediated antigen retrieval before commencing with IHC staining protocol.

Target

Function

Cytokine that binds to TNFRSF1A/TNFR1 and TNFRSF1B/TNFBR. It is mainly secreted by macrophages and can induce cell death of certain tumor cell lines. It is potent pyrogen causing fever by direct action or by stimulation of interleukin-1 secretion and is implicated in the induction of cachexia, Under certain conditions it can stimulate cell proliferation and induce cell differentiation.

Involvement in disease

Genetic variations in TNF are a cause of susceptibility psoriatic arthritis (PSORAS) [MIM:607507]. PSORAS is an inflammatory, seronegative arthritis associated with psoriasis. It is a heterogeneous disorder ranging from a mild, non-destructive disease to a severe, progressive, erosive arthropathy. Five types of psoriatic arthritis have been defined: asymmetrical oligoarthritis characterized by primary involvement of the small joints of the fingers or toes; asymmetrical arthritis which involves the joints of the extremities; symmetrical polyarthritis characterized by a rheumatoidlike pattern that can involve hands, wrists, ankles, and feet; arthritis mutilans, which is a rare but deforming and destructive condition; arthritis of the sacroiliac joints and spine (psoriatic spondylitis).

Sequence similarities

Belongs to the tumor necrosis factor family.

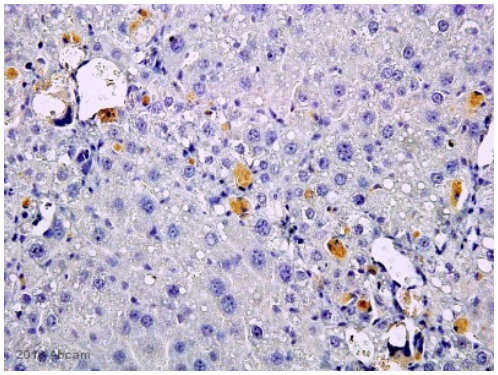
Post-translational modifications

The soluble form derives from the membrane form by proteolytic processing.
The membrane form, but not the soluble form, is phosphorylated on serine residues.
Dephosphorylation of the membrane form occurs by binding to soluble TNFRSF1A/TNFR1.
O-glycosylated; glycans contain galactose, N-acetylgalactosamine and N-acetylneuraminic acid.

Cellular localization

Secreted and Cell membrane.

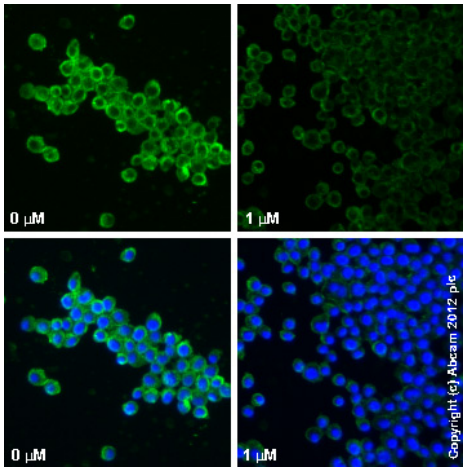
Images



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TNF alpha antibody [52B83] (ab1793)

This image is courtesy of an Abreview submitted by Dr Robert Domitrovic

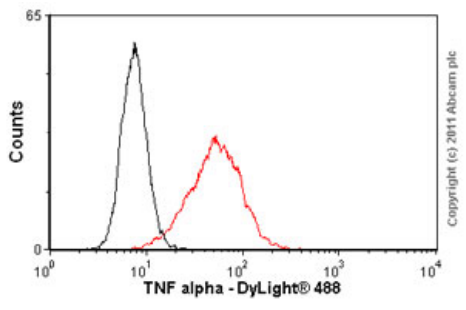
ab1793 staining TNF alpha in mouse liver tissue sections, from mice intoxicated with carbon tetrachloride for 7 weeks, by IHC-P (Formaldehyde-fixed, Paraffin-embedded sections). Tissue samples were fixed with formaldehyde and blocked with 1% BSA for 30 minutes at 25°C; antigen retrieval was by heat mediation in citrate buffer. The sample was incubated with primary antibody (1/50 in 1% BSA) at 4°C for 12 hours. An undiluted HRP-conjugated secondary antibody was used.



Immunocytochemistry/ Immunofluorescence - Anti-TNF alpha antibody [52B83] (ab1793)

ab1793 staining TNFα in RAW 264.7 cells treated with (R,S)-rolipram (ab120029), by ICC/IF. Decrease in TNFα expression correlates with increased concentration of (R,S)-rolipram, as described in literature.

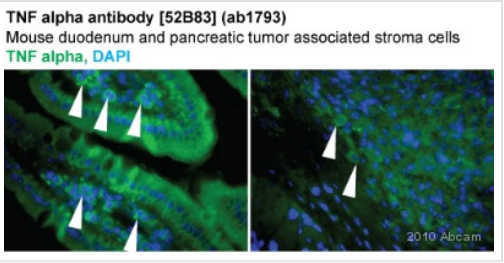
The cells were incubated at 37°C for 24h in media containing different concentrations of ab120029 ((R,S)-rolipram) in DMSO, fixed with 100% methanol for 5 minutes at -20°C and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab1793 (5 µg/ml) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-mouse polyclonal antibody (ab96879) at 1/250 dilution was used as the secondary antibody. Nuclei were counterstained with DAPI and are shown in blue.



Flow Cytometry - Anti-TNF alpha antibody [52B83] (ab1793)

Overlay histogram showing RAW 264.7 cells stained with ab1793 (red line). The cells were fixed with methanol (5 min) and incubated in 1x PBS / 10% normal goat serum / 0.3M glycine to block non-specific protein-protein interactions. The cells were then incubated with the antibody (ab1793, 1/10 dilution) for 30 min at 22°C. The secondary antibody used was DyLight® 488 goat anti-mouse IgG (H+L) (ab96879) at 1/500 dilution for 30 min at 22°C. Isotype control antibody (black line) was mouse IgG1 [ICIGG1] (ab91353, 2µg/1x10^6 cells) used under the same conditions. Acquisition of >5,000 events was performed. This antibody gave a decreased signal in RAW 264.7 cells fixed with 4% paraformaldehyde (10 min) used under the same conditions.

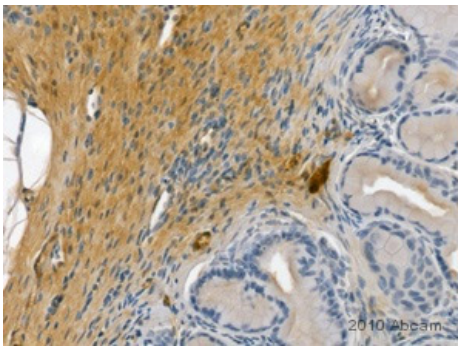
Please note that Abcam do not have data for use of this antibody on non-fixed cells. We welcome any customer feedback.



Immunohistochemistry (Frozen sections) - Anti-TNF alpha antibody [52B83] (ab1793)

This image is courtesy of an anonymous Abreview

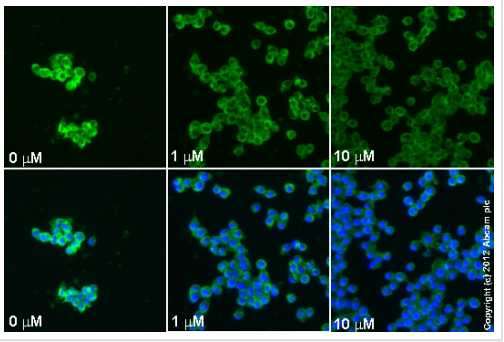
ab1793 staining TNF alpha in Mouse duodenum and pancreatic cancer associated stroma sections by Immunohistochemistry (IHC-Fr - frozen sections). Tissue was fixed with paraformaldehyde and blocked with 5% serum for 1 hour at room temperature. Samples were incubated with primary antibody (1/100 in PBS) for 8 hours at 4°C. An Alexa Fluor®488-conjugated Goat anti-mouse IgG polyclonal (1/500) was used as the secondary antibody. Nuclei were stained by DAPI.



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-TNF alpha antibody [52B83] (ab1793)

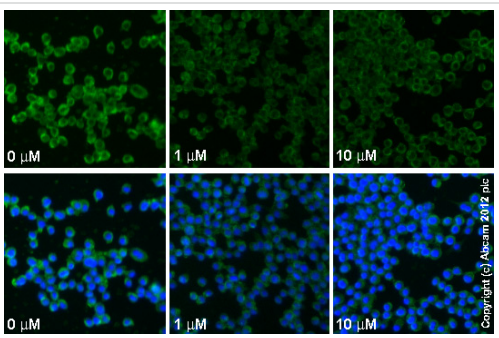
This image is courtesy of an anonymous Abreview

ab1793 staining TNF alpha in Mouse pancreatic neoplasia tissue sections by Immunohistochemistry (IHC-P - formaldehyde-fixed, paraffin-embedded sections). Tissue was fixed with paraformaldehyde and blocked with a MOM kit for 1 hour at room temperature; antigen retrieval was by heat mediation in citrate buffer. Samples were incubated with primary antibody (1/100 in PBS) for 8 hours at 4°C. An undiluted Biotin-conjugated Goat anti-mouse IgG polyclonal (MOM kit) was used as the secondary antibody.



Immunocytochemistry/ Immunofluorescence - Anti-TNF alpha antibody [52B83] (ab1793)

ab1793 staining TNFα in RAW 264.7 cells treated with (R)-(-)-rolipram (ab120031), by ICC/IF. Decrease in TNFα expression correlates with increased concentration of (R)-(-)-rolipram , as described in literature.
The cells were incubated at 37°C for 24h in media containing different concentrations of ab120031 ((R)-(-)--rolipram) in DMSO, fixed with 100% methanol for 5 minutes at -20°C and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab1793 (5 µg/ml) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-mouse polyclonal antibody (ab96879) at 1/250 dilution was used as the secondary antibody. Nuclei were counterstained with DAPI and are shown in blue.



Immunocytochemistry/ Immunofluorescence - Anti-TNF alpha antibody [52B83] (ab1793)

ab1793 staining TNFα in RAW 264.7 cells treated with (S)-(+)-rolipram (ab120030), by ICC/IF. Decrease in TNFα expression correlates with increased concentration of (S)-(+)-rolipram , as described in literature.

The cells were incubated at 37°C for 24h in media containing different concentrations of ab120030 ((S)-(+)-rolipram) in DMSO, fixed with 100% methanol for 5 minutes at -20°C and blocked with PBS containing 10% goat serum, 0.3 M glycine, 1% BSA and 0.1% tween for 2h at room temperature. Staining of the treated cells with ab1793(5 µg/ml) was performed overnight at 4°C in PBS containing 1% BSA and 0.1% tween. A DyLight 488 goat anti-mouse polyclonal antibody (ab96879) at 1/250 dilution was used as the secondary antibody. Nuclei were counterstained with DAPI and are shown in blue.

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