abcam

ab77868

Anti-CD70 antibody [BU69]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
Form	Liquid
Clonality	Monoclonal
Clone number	BU69
Purification technique	Affinity purification
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

Flow Cyt

Tested

Species	Human
Dilution info	1 µg/mL
Notes	ab170190 - Mouse monoclonal IgG1, is suitable for use as an isotype control with this antibody.

IHC-Fr

Tested

Species	Human
Dilution info	5 µg/mL
Notes	-

Target data

See full target information CD70

Function	Expressed at the plasma membrane of B cells, it is the ligand of the CD27 receptor which is specifically expressed at the surface of T cells (PubMed:28011863, PubMed:28011864, PubMed:8387892). The CD70-CD27 signaling pathway mediates antigen-specific T cell activation and expansion which in turn provides immune surveillance of B cells (PubMed:28011863, PubMed:28011864).

Storage

Shipped at conditions	Blue Ice
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

Want a custom formulation?
This antibody clone is manufactured by Abcam. If you require a custom buffer formulation or conjugation for your experiments, please contact orders@abcam.com

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	CD70 also known as CD27 ligand or CD27L is a type II transmembrane protein with a molecular mass of approximately 30 kDa. It belongs to the tumor necrosis factor (TNF) superfamily and is encoded by the CD70 gene. The expression of CD70 occurs mainly on activated T and B cells dendritic cells and some NK cells but not on resting lymphocytes. In addition CD70 expression is observed in certain malignancies and inflammatory conditions.
Biological function summary	CD70 plays an essential role in the regulation of immune responses. It does this by binding to its receptor CD27 forming a receptor-ligand complex that triggers signaling pathways vital for T cell proliferation survival and differentiation. This interaction also influences the production of immunoglobulins by B cells. CD70-CD27 signaling is particularly important in shaping adaptive immunity enhancing the body's ability to respond to pathogens effectively.
Pathways	CD70 is integral in the activation of the NF-κB and MAPK pathways. These pathways are activated upon the interaction of CD70 with CD27 promoting cell survival proliferation and pro-inflammatory cytokine production. Other proteins related to CD70 through these pathways include TRAF2 and TRAF3 which are essential for downstream signaling events that modulate immune responses.
Associated diseases and disorders	CD70 has been implicated in autoimmune diseases and certain cancers. For instance it plays a role in the pathogenesis of lupus by contributing to abnormal immune activation. Overexpression of CD70 is also associated with various cancers such as renal cell carcinoma where it can support tumor cell growth and immune evasion. Through these conditions CD70 interacts with proteins like BCL-2 in cancer affecting cell survival pathways while its interaction with CD27 influences the immune deregulation seen in lupus.

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

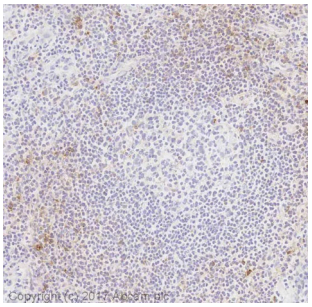
We do not recommend this combination. It is not covered by our product promise.

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.

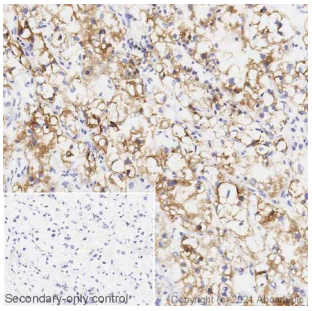
6 product images



Immunohistochemistry (Frozen sections) - Anti-CD70 antibody [BU69] (ab77868)

CD70 Immunohistochemistry (Frozen sections) staining using mouse Anti-CD70 antibody

IHC image of CD70 staining in human tonsil frozen tissue section, fixed in 10% paraformaldehyde (10 min). Staining was performed on a Leica Bond system using the standard protocol F. The section was then incubated with ab77868, 5µg/ml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX.
For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

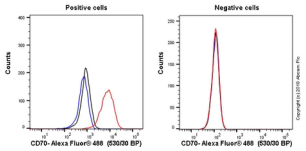


Immunohistochemistry (Frozen sections) - Anti-CD70 antibody [BU69] (ab77868)

CD70 Immunohistochemistry (Frozen sections) staining using mouse Anti-CD70 antibody

IHC image of CD70 staining in a section of frozen human kidney RCC performed on a Leica BOND™ system using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab77868, 5ugml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

For other IHC staining systems (automated and non-automated) customers should optimize variable parameters such as antigen retrieval conditions, primary antibody concentration and antibody incubation times.

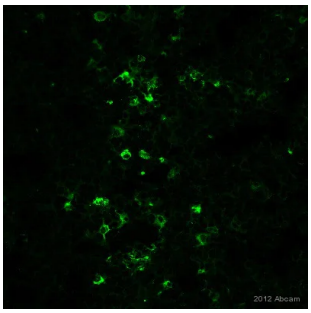


Flow Cytometry - Anti-CD70 antibody [BU69] (ab77868)

CD70 Flow Cytometry staining using mouse Anti-CD70 antibody

Overlay histograms showing left Raji and right SHSY5Y cells stained with ab77868 (red line). The cells were incubated in 1x PBS / 10% normal goat serum to block non-specific protein-protein interactions followed by the antibody (ab77868) ($1x10^6$ in 100µl at 1 µg/ml) for 30 min on ice. The secondary antibody Goat anti-mouse IgG H&L (Alexa Fluor ® 488, pre-adsorbed) (ab150177) was used at 1/2000 dilution for 30 min at 4°C. Isotype control antibody (black line) was mouse IgG1κ (ab170190) used at the same concentration and conditions as the primary antibody. Unlabelled sample (blue line) was also used as a control.

Acquisition of >5,000 events were collected using a 50 mW Blue laser (488nm) and 530/30 bandpass filter. Events were gated on viable single cells.



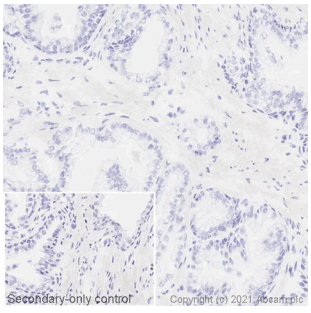
This image is courtesy of an anonymous customer review

Immunohistochemistry (Frozen sections) - Anti-CD70 antibody [BU69] (ab77868)

CD70 Immunohistochemistry (Frozen sections) staining using mouse Anti-CD70 antibody

Immunohistochemical analysis of Human tonsil tissue, staining CD70 with ab77868.

Tissue was fixed with acetone and blocked with 6% serum for 30 minutes at 25°C. Samples were incubated with primary antibody (1/100 in 2% BSA in PBS) for 1 hour at 25°C. An AlexaFluor®488-conjugated goat anti-mouse monoclonal IgG (1/250) was used as the secondary antibody.

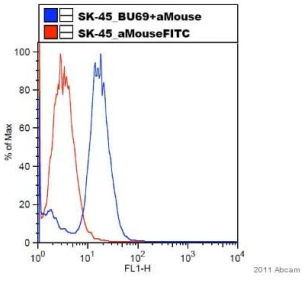


Immunohistochemistry (Frozen sections) - Anti-CD70 antibody [BU69] (ab77868)

CD70 Immunohistochemistry (Frozen sections) staining using mouse Anti-CD70 antibody

Negative tissue image. IHC image of CD70 staining in a section of frozen human prostate carcinoma performed on a Leica BONDTM system using the standard protocol. The section was fixed in 10% paraformaldehyde (10 min) prior to staining. The section was incubated with ab77868, 5ugml, for 15 mins at room temperature and detected using an HRP conjugated compact polymer system. DAB was used as the chromogen. The section was then counterstained with haematoxylin and mounted with DPX. The inset secondary-only control image is taken from an identical assay without primary antibody.

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Flow Cytometry - Anti-CD70 antibody [BU69] (ab77868)

ab77868 used in Flow Cytometry. Red histogram represents cells stained with secondary alone ab8517 at a 1/200 dilution, blue histogram - Formaldehyde fixed SK-RC-45 human renal carcinoma cells stained with ab78868 at a 1/100 dilution. FL1-H - green channel

Image courtesy of Tatiana Karakasheva by customer review.

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