abcam

ab238468

Anti-CD86 antibody [OX48]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	Preservative: 0.02% Sodium azide Constituents: PBS, 6.97% L-Arginine
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	OX48
Purification technique	Affinity purification
Light chain type	kappa
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS.

Reactivity data

Flow Cyt

Tested

Species	Rat
Dilution info	5 µg/mL
Notes	-

IHC-Fr

Tested

Species	Rat
Dilution info	5 µg/mL
Notes	-

Target data

See full target information CD86

Function

Costimulatory molecule that belongs to the immunoglobulin superfamily that plays an important role in T-lymphocyte activation (PubMed:12196291, PubMed:7694363). Acts as the primary auxiliary signal augmenting the MHC/TCR signal in naive T-cells by acting as a ligand for the CD28 receptor which is constitutively expressed on the cell surface of T-cells (PubMed:12196291, PubMed:7694363). May play a critical role in the early events of T-cell activation and costimulation of naive T-cells, such as deciding between immunity and anergy that is made by T-cells within 24 hours after activation (PubMed:7527824). Also involved in the regulation of B cells function, plays a role in regulating the level of IgG(1) produced. Upon CD40 engagement, activates NF-kappa-B signaling pathway via phospholipase C and protein kinase C activation (By similarity). Also acts as an inhibitor of T-cell activation by acting as a ligand for CTLA4, a decoy receptor, thereby blocking CD28-mediated T-cell priming (PubMed:11279501). Isoform 2. Interferes with the formation of CD86 clusters, and thus acts as a negative regulator of T-cell activation. (Microbial infection) Acts as a receptor for adenovirus subgroup B.

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	CD86 also known as B7-2 is a protein involved in the regulation of the immune response. It has an approximate mass of 70 kDa and is expressed on antigen-presenting cells like dendritic cells monocytes and macrophages. Notably CD86 is present on macrophages including those in tissues such as skin and lymphoid organs. Expressed on these cells CD86 serves as a vital mediator in the co-stimulatory signals necessary for T cell activation and survival.
Biological function summary	CD86 plays a significant role in the immune system by providing secondary signals for T cell activation and differentiation. It is a part of the B7 protein family and forms a complex with CD28 and CTLA-4 on T cells. When CD86 binds to CD28 it sends positive co-stimulatory signals which promote T cell proliferation and cytokine production. On the other hand interaction with CTLA-4 transmits an inhibitory signal which reduces immune response. This dual interaction helps to balance immune activation and tolerance.
Pathways	CD86 takes part in important immune-related signaling pathways particularly the T cell receptor signaling pathway and the PI3K-Akt signaling pathway. Both pathways are fundamental for initiating immune responses. CD86's interaction with CD28 activates downstream signaling cascades including PI3K-Akt which is important for cell survival and growth. Additionally CD86 collaborates with other proteins such as CD80 another co-stimulatory molecule to amplify T cell activation within these pathways.
Associated diseases and disorders	CD86 is associated with autoimmune diseases and transplant rejection. In autoimmune diseases like rheumatoid arthritis the overexpression or dysregulation of CD86 can lead to excessive T cell activation causing immune system attacks on the body's own tissues. Similarly in transplant rejection CD86 may contribute by enhancing immune response against transplanted organs. The engagement between CD86 and CD28 is a critical factor in these conditions and therapies targeting this interaction are under exploration to mitigate the immune response.

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.

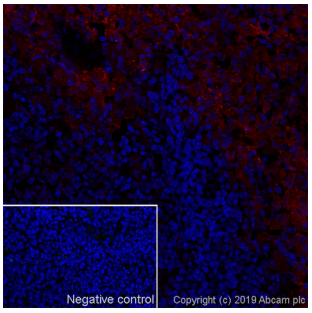
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In the unlikely event of one of our products not working as expected, you are covered by our product promise.

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2 product images



Immunohistochemistry (Frozen sections) - Anti-CD86 antibody [OX48] (ab238468)

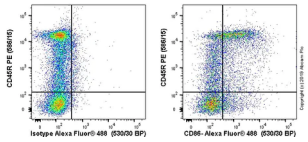
CD86 Immunohistochemistry (Frozen sections) staining using mouse Anti-CD86 antibody

IHC image of CD134/OX40L receptor staining in a section of frozen normal rat spleen*.
The section was fixed using 10% formaldehyde in 1XPBS for 10 minutes. No antigen retrieval step was performed prior to staining. Non-specific protein-protein interactions were then blocked in TBS containing 0.025% (v/v) Triton X-100, 0.3M glycine and 1% (w/v) BSA for 1h at room temperature. The section was then incubated overnight at +4°C in TBS containing 0.025% (v/v) Triton X-100 and 1% (w/v) BSA with ab238468 at 5µg/ml. The section was then incubated with ab150119 (Goat polyclonal Secondary Antibody to Mouse IgG - H&L (Alexa Fluor®647, 1/1000)) (shown in red) for 1 hour at room temperature. The secondary-only control insert image is taken from an identical assay without primary antibody. The section was then mounted using Fluoromount®.

Image was taken with a confocal microscope (Leica-Microsystems, TCS SP8).

For IHC staining systems (automated and non-automated), customers should optimize variable parameters such as antibody concentrations and incubation times.

*Tissue obtained from Charles River.



Flow Cytometry - Anti-CD86 antibody [OX48] (ab238468)

CD86 Flow Cytometry staining using mouse Anti-CD86 antibody

Lewis rat splenocytes stained with ab238468 (right) or mouse IgG1κ (left). Lewis rat splenocytes were incubated for 30 min on ice in 10% rat serum to block FC receptors and non-specific protein-

protein interaction followed by the antibody (ab238468) or mouse IgG1κ Isotype (ab170190) ($1x10^6$ in 100µl at 5 µg/ml) for 30 min on ice.
The secondary antibody Goat Anti-Mouse IgG H&L (Alexa Fluor® 488, pre-adsorbed) (ab150117) was used at 1/2000 dilution for 30 min at 4°C. The cells were simultaneously stained with CD45R PE antibody.

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

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