abcam

# ab290990

# Alexa Fluor® 488 Anti-CD86 antibody [EPR21962]

Recombinant | RabMAb

## Key facts

| | |
|---|---|
| **Isotype** | IgG |
| **Host species** | Rabbit |
| **Conjugation** | Alexa Fluor® 488 |
| **Excitation/Emission** | Ex: 495nm, Em: 519nm |
| **Storage buffer** | pH: 7.2 - 7.4 Preservative: 0.02% Sodium azide Constituents: PBS, 30% Glycerol (glycerin, glycerine), 1% BSA |
| **Form** | Liquid |
| **Clonality** | Monoclonal |
| **Immunogen** | The exact immunogen used to generate this antibody is proprietary information. |
| **Clone number** | EPR21962 |
| **Purification technique** | Affinity purification Protein A |
| **Concentration** | 0.5 mg/mL The concentration of this product may be batch-dependent<br>Batch concentration finder → |

## Reactivity data

## ICC

**Tested**

| | |
|---|---|
| **Species** | Human |

| | |
|---|---|
| **Dilution info** | 1/50 |
| **Notes** | - |

## Flow Cyt

### Tested

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | 1/500 |
| **Notes** | - |

## ICC/IF

### Expected

| | |
|---|---|
| **Species** | Human |
| **Dilution info** | Use at an assay dependent concentration. |
| **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, Store in the dark |

## Notes

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

**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.

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## 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**

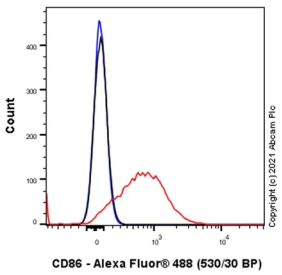
We do not recommend this combination. It is not covered by our product promise.

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:
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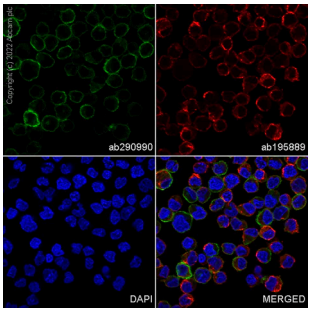
## 2 product images




### Flow Cytometry - Alexa Fluor® 488 Anti-CD86 antibody [EPR21962] (ab290990)

CD86 Flow Cytometry staining using rabbit Anti-CD86 antibody

Flow cytometric overlay histogram showing Raji (Human Burkitt's lymphoma B lymphocytes) labelling CD86 with ab290990 at 1/500 dilution (Red). Isotype control: Rabbit monoclonal isotype control - Alexa Fluor® 488 (Black). Unlabelled control: Cells without incubation with primary antibody and secondary antibody (Blue).




### Immunocytochemistry - Alexa Fluor® 488 Anti-CD86 antibody [EPR21962] (ab290990)

CD86 Immunocytochemistry staining using rabbit Anti-CD86 antibody

Immunofluorescent analysis of 4% Paraformaldehyde fixed Raji (human Burkitt's lymphoma B lymphocytes) permeabilized with 0.1% TritonX-100 labelling CD86 with ab290990 at 1/50 dilution, (Green). Confocal image showing membranous staining in Raji cells. ab195889 Anti-alpha Tubulin mouse monoclonal antibody - Microtubule Marker (Alexa Fluor® 594) (shown in Red) was used to counterstain tubulin at 1/200 dilution. The nuclear counterstain was DAPI (Blue).

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