abcam

ab8239

Anti-CD80 antibody [MEM-233]

Key facts

Isotype	IgG1
Host species	Mouse
Storage buffer	pH: 7.4 Preservative: 0.097% Sodium azide Constituents: PBS
Form	Liquid
Clonality	Monoclonal
Immunogen	Recombinant Fragment Protein within Human CD80. The exact immunogen used to generate this antibody is proprietary information. Database link P33681
Clone number	MEM-233
Purification technique	Affinity purification Protein A
Light chain type	unknown
Concentration	1 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →
Purification notes	Purified from TCS. Purity >95% by SDS-PAGE.

Reactivity data

IP

Expected

Species	Human
Dilution info	Use at an assay dependent concentration.

Notes	-

Flow Cyt

Expected

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

Target data

See full target information CD80

Function	Costimulatory molecule that belongs to the immunoglobulin superfamily that plays an important role in T-lymphocyte activation (PubMed:38467718). 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). In turn, activates different signaling pathways such as NF-kappa-B or MAPK leading to the production of different cytokines (PubMed:10438913). 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:10583602, PubMed:11279502). In addition, CD28/CD80 costimulatory signal stimulates glucose metabolism and ATP synthesis of T-cells by activating the PI3K/Akt signaling pathway (PubMed:12121659). Also acts as a regulator of PDL1/PDCD1 interactions to limit excess engagement of PDL1 and its inhibitory role in immune responses (PubMed:36727298). Expressed on B-cells, plays a critical role in regulating interactions between B-cells and T-cells in both early and late germinal center responses, which are crucial for the generation of effective humoral immune responses (By similarity). (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

This product was changed from ascites to tissue culture supernatant on 24th January 2018. Please note that the dilutions may need to be adjusted accordingly. If you have any questions, please do not hesitate to contact our scientific support team.

Supplementary info

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

Activity summary	CD80 also known as B7-1 is a cell surface protein with a molecular weight of approximately 60 kDa. It is expressed on antigen-presenting cells such as dendritic cells macrophages and B cells. The CD80 protein plays a mechanical role in immune response modulation by providing necessary signals for T cell activation and survival. CD80 interacts with receptors CD28 and CTLA-4 on T cells serving as a costimulatory molecule important for productive immune responses.
Biological function summary	CD80 plays a significant role in the immune system's ability to distinguish between self and non-self. It belongs to the B7 family and participates in the formation of immunological synapses between T cells and antigen-presenting cells. This interaction is essential for triggering T cell proliferation and cytokine production forming a part of the adaptive immune response. CD80's expression increases in response to pathogen recognition enhancing the immune system's efficiency.
Pathways	CD80 is integral to the regulation of T cell-mediated immune responses. It is involved in the CD28 co-stimulatory pathway which is vital for T cell activation and function. In this pathway CD80 interacts with proteins like CD28 and CTLA-4 to modulate immune activation and regulate immune tolerance. The proper function of CD80 within this pathway ensures a balanced immune reaction preventing autoimmunity while allowing effective defense against pathogens.
Associated diseases and disorders	CD80 plays a role in autoimmune conditions and transplantation rejection. Its overexpression or dysregulation can contribute to diseases such as rheumatoid arthritis where it modifies T cell response and inflammation. Additionally CD80 is implicated in organ transplantation influencing graft rejection outcomes due to its role in modulating immune activation. Understanding CD80 interactions with CTLA-4 and CD28 offers insight into these conditions providing potential targets for therapeutic intervention.

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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