

# CD80 Antibody [8G12]

Catalog # ASC12143

## Product Information

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Application	IHC-P, IF, ICC, E
Primary Accession	<a href="#">P33681</a>
Other Accession	<a href="#">NP_005182</a>
Host	Mouse
Clonality	Monoclonal
Isotype	IgG2b
Clone Names	CD80
Calculated MW	33048

## Additional Information

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Gene ID	941
Alias Symbol	CD80
Other Names	CD80 Antibody: CD80 molecule, B7, BB1, B7-1, B7.1, LAB7, CD28LG, CD28LG1

**Reconstitution & Storage** CD80 antibody can be stored at 4 °C for three months and -20 °C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

**Precautions** CD80 Antibody [8G12] is for research use only and not for use in diagnostic or therapeutic procedures.

## Protein Information

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Name	CD80
Synonyms	CD28LG, CD28LG1, LAB7

**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 together with 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](#)). 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).

**Cellular Location**

Cell membrane; Single-pass type I membrane protein

**Tissue Location**

Expressed on activated B-cells, macrophages and dendritic cells

## Background

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CD80 Antibody: CD80, also known as B7-1, is a type I membrane protein that is a member of the immunoglobulin superfamily. Like the related protein CD86, this protein is expressed by antigen-presenting cells, and is the ligand for two proteins at the cell surface of T cells, CD28 and the cytotoxic T-lymphocyte-associated protein 4 (CTLA-4). Binding of this protein with CD28 antigen is a costimulatory signal for activation of the T-cell and induces T-cell proliferation and cytokine production. CTLA-4 binding negatively regulates T-cell activation and diminishes the immune response (1). Blocking the CTLA-4-CD80/CD86 interaction has been shown to enhance T-cell functions in acute lymphoblastic leukemia (ALL), suggesting that this pathway may be an attractive target for future cancer immunotherapy (2).

## References

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Lane P. Regulation of T and B cell responses by modulating interactions between CD28/CTLA-4 and their ligands, CD80 and CD86. Ann NY Acad Sci 1997; 815:392-400. Feucht J, Kayser S, Gorodezki D, et al. T-cell responses against CD19+ pediatric acute lymphoblastic leukemia mediated by bispecific T-cell engager (BiTE) are regulated contrarily by PD-L1 and CD80/CD86 on leukemic blasts. Oncotarget 2016; 7:76902-19.

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