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Anti-CD80 (B7-1) Antibody

Mouse Monoclonal Antibody
Catalog # AH13620

Product Information

Application	IF, FC, E
Primary Accession	P33681
Other Accession	838
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Isotype	Mouse / IgG1, kappa
Clone Names	C80/1608
Calculated MW	33048

Additional Information

Gene ID	941
Other Names	Activation B7-1 antigen; B lymphocyte activation antigen B7; B7; B7-1; BB1; CD28 antigen ligand 1; CD28LG; CD28LG1; CD80; Costimulatory factor CD80; CTLA-4 counter-receptor B7.1; LAB7; T-lymphocyte activation antigen CD80
Application Note	ELISA (For coating, order Ab without BSA); ,Immunofluorescence (1-2ug/ml); ,Flow Cytometry (0.5-1ug/million cells);,Optimal dilution for a specific application should be determined.
Format	200ug/ml of Ab purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available WITHOUT BSA & azide at 1.0mg/ml.
Storage	Store at 2 to 8°C.Antibody is stable for 24 months.
Precautions	Anti-CD80 (B7-1) Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

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

T cell proliferation and lymphokine production are triggered by occupation of the TCR by antigen, followed by a costimulatory signal that is delivered by a ligand expressed on antigen presenting cells. The B7-related cell surface proteins CD80 (B7-1) and CD86 (B7-2) are expressed on antigen presenting cells bind the homologous T cell receptors CTLA-4 (cytotoxic T lymphocyte-associated protein-4) and CD28 and trigger costimulatory signals for optimal T cell activation. CTLA-4 shares 31% overall amino acid identity with CD28 and it has been proposed that CD28 and CTLA-4 are functionally redundant. SLAM is a novel receptor on T cells that, when engaged, potentiates T cell expansion in a CD28-independent manner. B7, also designated BB1, is another ligand or counter receptor for CD28 and CTLA-4 that is expressed on the antigen-presenting cell.