Mouse B7-1/CD80 Antibody

Monoclonal Rat IgG_{2A} Clone # 111114

Catalog Number: MAB740

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse B7-1/CD80 in direct ELISAs and Western blots. Shows approximately 50% cross-reactivity with recombinant human (rh) B7-H1 and no cross-reactivity with rhB7-1, recombinant mouse (rm) rmB7-2, and rmB7-H2.
Source	Monoclonal Rat IgG_{2A} Clone # 111114
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant mouse B7-1/CD80 Val38-Asn246 Accession # Q00609
Formulation	Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 μm filtered solution in PBS.

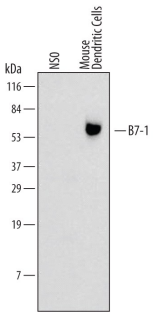
APPLICATIONS

Please Note: *Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.*

	Recommended Concentration	Sample
Western Blot	5 µg/mL	See Below
Immunohistochemistry	5-25 µg/mL	See Below

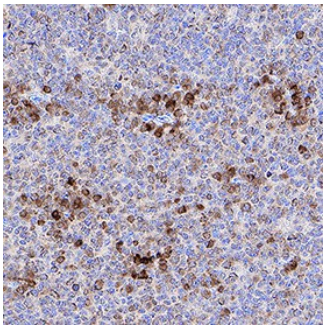
DATA

Western Blot



Detection of Mouse B7-1/CD80 by Western Blot. Western blot shows lysates of NS0 mouse myeloma cell line and *in vitro* matured mouse dendritic cells. PVDF membrane was probed with 5 µg/mL of Rat Anti-Mouse B7-1/CD80 Monoclonal Antibody (Catalog # MAB740) followed by HRP-conjugated Anti-Rat IgG Secondary Antibody (Catalog # HAF005). A specific band was detected for B7-1/CD80 at approximately 60 kDa (as indicated). This experiment was conducted using Immunoblot Buffer Group 1.

Immunohistochemistry



B7-1/CD80 in Human Tonsil. B7-1/CD80 was detected in immersion fixed paraffin-embedded sections of human tonsil using Rat Anti-Mouse B7-1/CD80 Monoclonal Antibody (Catalog # MAB740) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Rat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS017) and counterstained with hematoxylin (blue). Specific staining was localized to lymphocyte cytoplasm. View our protocol for Chromogenic IHC Staining of Paraffin-embedded Tissue Sections.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** ● 12 months from date of receipt, -20 to -70 °C as supplied. ● 1 month, 2 to 8 °C under sterile conditions after reconstitution. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

B7-1 and B7-2, together with their receptors CD28 and CTLA-4, constitute one of the dominant costimulatory pathways that regulate T and B cell responses. Although both CTLA-4 and CD28 can bind to the same ligands, CTLA-4 binds to B7-1 and B7-2 with a 20-100 fold higher affinity than CD28 and is involved in the down-regulation of the immune response. B7-1 is expressed on activated B cells, activated T cells, and macrophages. B7-2 is constitutively expressed on interdigitating dendritic cells, Langerhans cells, peripheral blood dendritic cells, memory B cells, and germinal center B cells. Additionally, B7-2 is expressed at low levels on monocytes and can be up-regulated through interferon γ. B7-1 and B7-2 are both members of the immunoglobulin superfamily. Mouse B7-1 is a 306 amino acid (aa) protein containing a putative 37 aa signal peptide, a 190 aa extracellular domain, a 22 aa transmembrane domain, and a 38 aa cytoplasmic domain. Mouse B7-1 and B7-2 share 28% amino acid identity. Mouse and human B7-1 share 44% amino acid identity. However, it has been observed that both human and mouse B7-1 and B7-2 can bind to either human or mouse CD28 and CTLA-4, suggesting that there are conserved amino acids which form the B7-1/B7-2/CD28/CTLA-4 critical binding sites.

References:

1. Azuma, M. *et al.* (1993) Nature **366**:76.
2. Freeman, G.J. *et al.* (1993) Science **262**:909.
3. Freeman, G. *et al.* (1991) J. Exp. Med. **174**:625.
4. Selvakumar, A. *et al.* (1993) Immunogenetics **38**:292.
5. Chen, C. *et al.* (1994) J. Immunol. **152**:4929.
6. Freeman, G.J. *et al.* (1993) J. Exp. Med. **178**:2185.

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