

DESCRIPTION

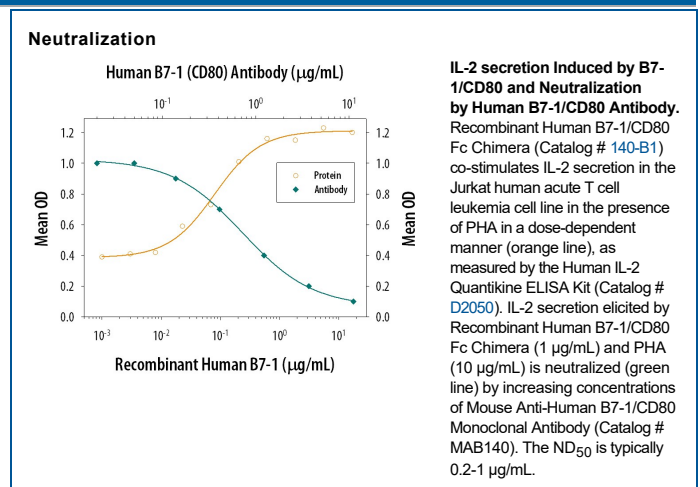
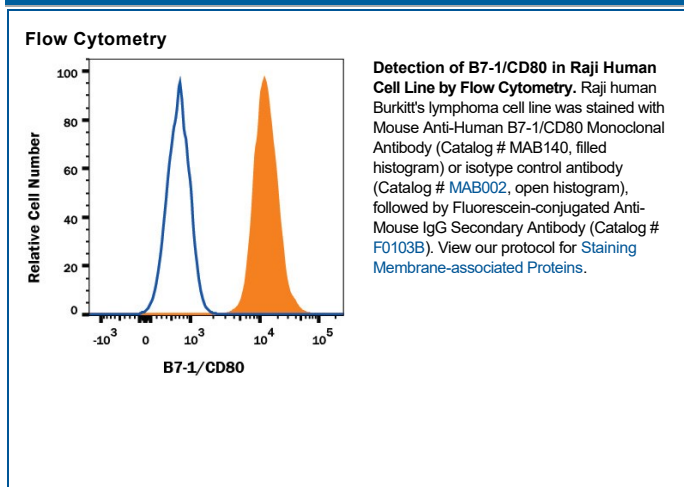
Species Reactivity	Human
Specificity	Detects human B7-1/CD80 in ELISAs. In sandwich immunoassays, no cross-reactivity or interference with recombinant human (rh) B7-2, recombinant mouse (rm) B7-1, rmB7-2, rhB7-H1, rhB7-H2, rhB7-H3 or rmPD-L2 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 37711
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant human B7-1/CD80 Val35-Asn242 (predicted) Accession # P33681
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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 either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

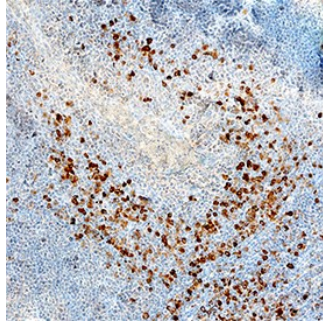
Please Note: Optimal dilutions should be determined by each laboratory for each application. [General Protocols](#) are available in the Technical Information section on our website.

	Recommended Concentration	Sample
Dual RNAscope ISH-IHC Compatible	5-25 µg/mL	See Below
Flow Cytometry	0.25 µg/10 ⁶ cells	See Below
Immunohistochemistry	5-25 µg/mL	See Below
Human B7-1/CD80 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human B7-1/CD80 Antibody (Catalog # MAB140)
ELISA Detection	0.5-2.0 µg/mL	Human B7-1/CD80 Biotinylated Antibody (Catalog # BAM1402)
Standard		Recombinant Human B7-1/CD80 Fc Chimera (Catalog # 140-B1)
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Neutralization	Measured by its ability to neutralize B7-1/CD80 and PHA-induced IL-2 secretion in the Jurkat human acute T cell leukemia cell line. The Neutralization Dose (ND ₅₀) is typically 0.2-1 µg/mL in the presence of 1 µg/mL Recombinant Human B7-1/CD80 Fc Chimera and 10 µg/mL PHA.	

DATA

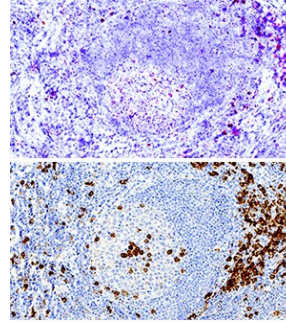


Immunohistochemistry



B7-1/CD80 in Human Tonsil. B7-1/CD80 was detected in immersion fixed paraffin-embedded sections of human tonsil using Mouse Anti-Human B7-1/CD80 Monoclonal Antibody (Catalog # MAB140) at 5 µg/mL overnight at 4 °C. Tissue was stained using the Anti-Mouse HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS002) and counterstained with hematoxylin (blue). Specific staining was localized to cytoplasm in lymphocytes. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

Dual RNAscope ISH-IHC Compatible



B7-1/CD80 in Human Tonsil Using Dual RNAscope® ISH and IHC. B7-1/CD80 mRNA was detected in formalin-fixed paraffin-embedded tissue sections of human tonsil probed with ACD RNAscope® Probe (Catalog # 42471) and stained using ACD RNAscope® 2.5 HD Duplex Detection Reagents (red, Catalog # 322500). Adjacent tissue section was processed for immunohistochemistry using R&D Systems Mouse Anti-Human B7-1/CD80 Monoclonal Antibody (Catalog# MAB140) at 5µg/mL with overnight incubation at 4 °C followed by incubation with the Anti-Mouse IgG VisUCyte HRP Polymer Antibody (R&D Systems, Catalog # VC001) and DAB chromogen (lower image, brown). Tissues were counterstained with hematoxylin (blue).

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	<p>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</p> <ul style="list-style-type: none"> • 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 co-stimulatory 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. Human B7-1 is a 288 amino acid (aa) protein containing a 34 aa signal peptide, a 208 aa extracellular domain, a 21 aa transmembrane domain, and a 25 aa cytoplasmic domain. Human B7-1 and B7-2 share 26% aa sequence identity. Human and mouse B7-1 share 44% aa sequence 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.