

## DESCRIPTION

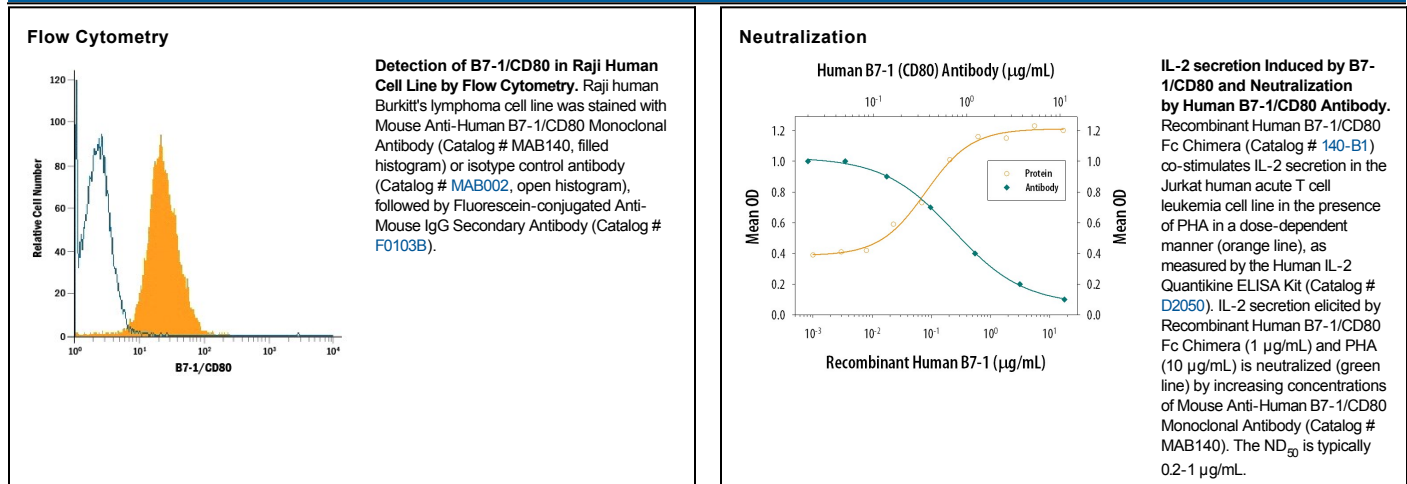
<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human B7-1/CD80 in ELISAs. In sandwich immunoassays, no cross-reactivity or interference with recombinant human (rh) B7-2, recombinant mouse (rm) B7-1, rmB7-2, rhB7-H1, rhB7-H2, rhB7-H3 or rmPD-L2 is observed.
<b>Source</b>	Monoclonal Mouse IgG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

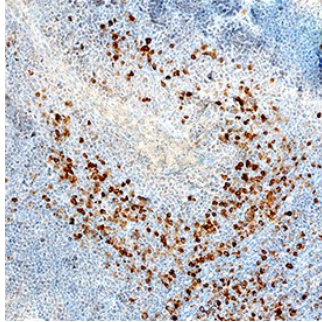
**Please Note:** Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	See Below
<b>Immunohistochemistry</b>	8-25 µg/mL	See Below
<b>Human B7-1/CD80 Sandwich Immunoassay</b>		<b>Reagent</b>
<b>ELISA Capture</b>	2-8 µg/mL	Human B7-1/CD80 Antibody (Catalog # <a href="#">MAB140</a> )
<b>ELISA Detection</b>	0.5-2.0 µg/mL	Human B7-1/CD80 Biotinylated Antibody (Catalog # <a href="#">BAM1402</a> )
<b>Standard</b>		Recombinant Human B7-1/CD80 Fc Chimera (Catalog # <a href="#">140-B1</a> )
<b>CyTOF-ready</b>	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
<b>Neutralization</b>	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 <sub>50</sub> ) 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](#).

**PREPARATION AND STORAGE**

<b>Reconstitution</b>	Reconstitute at 0.5 mg/mL in sterile PBS.
<b>Shipping</b>	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
<b>Stability &amp; Storage</b>	<p><b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b></p> <ul style="list-style-type: none"> <li>● 12 months from date of receipt, -20 to -70 °C as supplied.</li> <li>● 1 month, 2 to 8 °C under sterile conditions after reconstitution.</li> <li>● 6 months, -20 to -70 °C under sterile conditions after reconstitution.</li> </ul>

**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.