

#### 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>Conjugate</b>	Alexa Fluor 405 Excitation Wavelength: 405 nm Emission Wavelength: 421 nm
<b>Formulation</b>	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

#### 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>	0.25-1 µg/10 <sup>6</sup> cells	Raji human Burkitt's lymphoma cell line

#### PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> <ul style="list-style-type: none"> <li>12 months from date of receipt, 2 to 8 °C as supplied.</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.

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