

**DESCRIPTION**

<b>Species Reactivity</b>	Human
<b>Specificity</b>	Detects human B7-H2 in direct ELISAs. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) B7-1, rhB7-2, rhB7-H1, rhB7-H3, or recombinant mouse B7-H2 is observed.
<b>Source</b>	Monoclonal Mouse IgG <sub>2B</sub> Clone # 136726
<b>Purification</b>	Protein A or G purified from hybridoma culture supernatant
<b>Immunogen</b>	Mouse myeloma cell line NS0-derived recombinant human B7-H2 Asp19-Ser258 Accession # O75144
<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 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.

	<b>Recommended Concentration</b>	<b>Sample</b>
<b>Flow Cytometry</b>	2.5 µg/10 <sup>6</sup> cells	See Below
<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-H2-induced proliferation in PHA-activated human T cells. Wang, S. <i>et al.</i> (2000) <i>Blood</i> <b>96</b> :2808. The Neutralization Dose (ND <sub>50</sub> ) is typically 1-4 µg/mL in the presence of 3 µg/mL Recombinant Human B7-H2 Fc Chimera and 20 ng/mL Human CD3ε Monoclonal Antibody .	

**DATA**

**Flow Cytometry**

**Detection of B7-H2 in U937 Human Cell Line by Flow Cytometry.** U937 human histiocytic lymphoma cell line was stained with Mouse Anti-Human B7-H2 Monoclonal Antibody (Catalog # MAB165, filled histogram) or isotype control antibody (Catalog # MAB0041, open histogram), followed by Phycoerythrin-conjugated Anti-Mouse IgG F(ab')<sub>2</sub> Secondary Antibody (Catalog # F0102B).

**Neutralization**

**Cell Proliferation Induced by B7-H2 and Neutralization by Human B7-H2 Antibody.** In the presence of Human CD3ε Monoclonal Antibody (20 ng/mL, Catalog # MAB100), Recombinant Human B7-H2 Fc Chimera (Catalog # 165-B7) stimulates proliferation in PHA-activated human T cells in a dose-dependent manner (orange line). Under these conditions, proliferation elicited by Recombinant Human B7-H2 Fc Chimera (3 µg/mL) is neutralized (green line) by increasing concentrations of Mouse Anti-Human B7-H2 Monoclonal Antibody (Catalog # MAB165). The ND<sub>50</sub> is typically 1-4 µg/mL.

**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>	<b>Use a manual defrost freezer and avoid repeated freeze-thaw cycles.</b> <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**

Human B7-H2, also called B7RP-1, B7h, LICOS, and GL50, is a 60 kDa member of the B7 family of immune costimulatory proteins, which includes B7-1, B7-2, B7-H1 (PD-L1), PD-L2, and B7-H3. B7 proteins are members of the immunoglobulin (Ig) superfamily, the extracellular domains contain 2 Ig-like domains and all members have short cytoplasmic domains. Family members share about 20-25% amino acid identity. Within the extracellular domain, human B7-H2 shares 49% and 54% amino acid sequence identity with mouse and rat B7-H2, respectively. B7-H2 has been identified as the ligand for ICOS, a member of the CD28 family of costimulatory receptors. Human B7-H2 is a 309 amino acid (aa) protein with a putative 18 aa signal peptide, a 239 aa extracellular domain, an 18 aa transmembrane region, and a 33 aa cytoplasmic domain. Human B7-H2 is expressed constitutively on resting B cells, dendritic cells, and at low levels on monocytes. The B7-H2/ICOS interaction appears to play roles in T cell dependent B cell activation and T<sub>H</sub> differentiation.

**References:**

1. Coyle, A.J. and J.C. Gutierrez-Ramos (2001) *Nat. Immunol.* **2**:203.
2. Ling, V. *et al.* (2000) *J. Immunol.* **164**:1653.
3. Wang, S. *et al.* (2000) *Blood* **96**:2808.
4. Brodie, D. *et al.* (2000) *Curr. Biol.* **10**:333.
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6. Swallow, M.M. *et al.* (1999) *Immunity* **11**:423.
7. Yoshinaga, S.K. *et al.* (1999) *Nature* **402**:827.