

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human B7-H1/PD-L1 in direct ELISAs. In direct ELISAs, no cross-reactivity with recombinant human (rh) B7-1, -2, -H2, -H3, -H3b, -H4, rhPD-L2, recombinant mouse B7-H1, recombinant rat (rr) B7-1, or rrB7-2 is observed.
Source	Monoclonal Mouse IgG ₁ Clone # 130021
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human B7-H1/PD-L1 Phe19-Thr239 Accession # Q9NZQ7
Conjugate	Alexa Fluor 350 Excitation Wavelength: 346 nm Emission Wavelength: 442 nm
Formulation	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
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Jurkat human acute T cell leukemia cell line

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

Human B7 homolog 1 (B7-H1), also called programmed death ligand 1 (PD-L1) and programmed cell death 1 ligand 1 (PDCD1L1), is a member of the growing B7 family of immune proteins that provide signals for both stimulating and inhibiting T cell activation. Other family members include B7-1, B7-2, B7-H2, PDL2 and B7-H3. B7 proteins are members of the immunoglobulin (Ig) superfamily. Their extracellular domains contain 2 Ig-like domains and all members have short cytoplasmic domains. Among the family members, there is about 20-25% amino acid identity. Human and mouse B7-H1 share approximately 70% amino acid sequence identity. B7-H1 has been identified as one of two ligands for programmed death-1 (PD-1), a member of the CD28 family of immunoreceptors. The B7-H1 gene encodes a 291 amino acid (aa) type I membrane precursor protein with a putative 18 aa signal peptide, a 220 aa extracellular domain, a 21 aa transmembrane region, and a 31 aa cytoplasmic domain. Human B7-H1 is constitutively expressed in several organs such as heart, skeletal muscle, placenta and lung, and in lower amounts in thymus, spleen, kidney and liver. B7-H1 expression is upregulated in a small fraction of activated T and B cells and a much larger fraction of activated monocytes. B7-H1 expression is also induced in dendritic cells and keratinocytes after IFN-γ stimulation. Interaction of B7-H1 with PD-1 results in inhibition of TCR-mediated proliferation and cytokine production. The B7-H1:PD-1 pathway is involved in the negative regulation of some immune responses and may play an important role in the regulation of peripheral tolerance.

References:

1. Nishimura, H. and T. Honjo (2001) *Trends Immunol.* **22**:265.
2. Freeman, G.J. *et al.* (2000) *J. Exp. Med.* **192**:1027.
3. Latchman, Y. *et al.* (2001) *Nat. Immunol.* **2**:261.

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