

DESCRIPTION

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| Species Reactivity | Human |
| Specificity | Detects human PD-L1/B7-H1 in direct ELISAs. |
| Source | Recombinant Monoclonal Mouse IgG ₁ Clone # 130021R |
| Purification | Protein A or G purified from cell culture supernatant |
| Immunogen | Mouse myeloma cell line NS0-derived recombinant human PD-L1/B7-H1 Phe19-Thr239 Accession # Q9NZQ7 |
| Conjugate | Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm |
| Formulation | Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. *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 | HEK293 Human Cell Line Transfected with Human PD-L1/B7-H1 and eGFP |

PREPARATION AND STORAGE

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| 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. <ul style="list-style-type: none"> 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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