Human PD-L1/B7-H1 Antibody

Recombinant Monoclonal Rabbit IgG Clone # 2340D
Catalog Number: MAB1562

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human PD-L1/B7-H1 in direct ELISAs.
Source	Recombinant Monoclonal Rabbit IgG Clone # 2340D
Purification	Protein A or G purified from cell culture supernatant
Immunogen	Mouse myeloma cell line, NS0-derived human PD-L1/B7-H1 protein Phe19-Thr239 Accession # Q9NZQ7
Formulation	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.

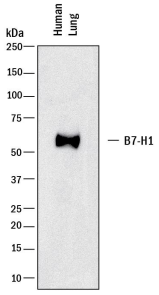
APPLICATIONS

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.*

	Recommended Concentration	Sample
Western Blot	2 µg/mL	See Below
Flow Cytometry	0.25 µg/10^6 cells	See Below
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	
Blockade of Receptor-ligand Interaction	In a functional ELISA binding assay, 0.2-1.2 µg/mL of this antibody will block 50% of the binding of 1 µg/mL of Recombinant Human PD-L1/B7-H1 (Catalog # 156-B7) to immobilized Recombinant Human PD-1 Fc chimera (Catalog # 1086-PD) coated at 100 ng/mL (100 µL/well). At 2-3 µg/mL, this antibody will block >90% of the binding.	

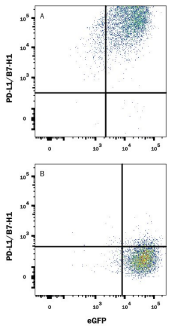
DATA

Western Blot



Detection of human PD-L1/B7-H1 by Western Blot. Western blot shows lysates of human lung tissue. PVDF membrane was probed with 2 µg/mL of Rabbit Anti-Human PD-L1/B7-H1 Monoclonal Antibody (Catalog # MAB1562) followed by HRP-conjugated Anti-Rabbit IgG Secondary Antibody (Catalog # HAF008). A specific band was detected for PD-L1/B7-H1 at approximately 50 kDa (as indicated). This experiment was conducted under reducing conditions and using Immunoblot Buffer Group 1.

Flow Cytometry



Detection of PD-L1/B7-H1 in HEK293 Human Cell Line Transfected with Human PD-L1/B7-H1 and eGFP by Flow Cytometry. HEK293 human embryonic kidney cell line transfected with either (A) human PD-L1/B7-H1 or (B) irrelevant protein and eGFP was stained with Rabbit Anti-Human PD-L1/B7-H1 Monoclonal Antibody (Catalog # MAB1562) followed by APC-conjugated Goat anti-Rabbit IgG Secondary Antibody (Catalog # F0111). Quadrant markers were set based on Rabbit IgG control antibody staining (Catalog # MAB1050). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	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
Stability & Storage	**Use a manual defrost freezer and avoid repeated freeze-thaw cycles.** • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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BACKGROUND

B7-H1, also known as PD-L1 and CD274, is an approximately 65 kDa transmembrane glycoprotein in the B7 family of immune regulatory molecules (1). Mature human B7-H1 consists of a 220 amino acid (aa) extracellular domain (ECD) with two immunoglobulin-like domains, a 21 aa transmembrane segment, and a 31 aa cytoplasmic domain (2). Within the ECD, human B7-H1 shares 73% and 74% aa sequence identity with mouse and rat B7-H1, respectively. Alternative splicing generates additional isoforms that either lack the first Ig-like domain or are truncated within the second Ig-like domain (3). B7-H1 is expressed on inflammatory-activated immune cells including macrophages, T cells, and B cells (4-7), keratinocytes (8, 9), enothelial and intestinal epithelial cells (8, 10), as well as a variety of carcinomas and melanoma (11, 12). B7-H1 binds to T cell B7-1/CD80 and PD-1 (7, 8, 12-15). It suppresses T cell activation and proliferation (5, 8, 14, 16) and induces the apoptosis of activated T cells (11). It plays a role in the development of immune tolerance by promoting T cell anergy (7, 14) and enhancing regulatory T cell development (16). B7-H1 favors the development of anti-inflammatory IL-10 and IL-22 producing dendritic cells (5, 10) and inhibits the development of Th17 cells (16). In cancer, B7-H1 provides resistance to T cell mediated lysis, enhances EMT, and enhances the tumorigenic function of Th22 cells (6, 9, 12, 15).

References:

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