

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human B7-H7/HHLA2 in direct ELISAs.
Source	Monoclonal Mouse IgG ₁ Clone # 907812
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell line HEK293-derived human B7-H7/HHLA2 Met1-Asn344 Accession # Q9UM44
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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 as a 0.2 µm filtered solution in PBS.

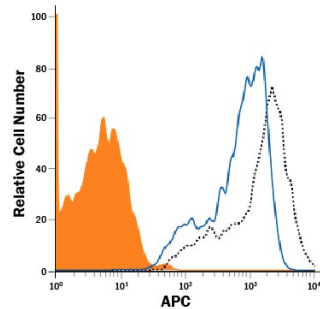
APPLICATIONS

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
Immunocytochemistry	8-25 µg/mL	See Below
Blockade of Receptor-ligand Interaction	In a functional ELISA, 100-300 ng/mL of Mouse anti-Human B7-H7/HHLA2 Antibody (Catalog # MAB80841) will block 50% of the binding of 500 ng/mL of Recombinant Human B7-H7/HHLA2 Fc Chimera (Catalog # 8084-B7) to immobilized Recombinant Human TMIGD2/CD28H Fc Chimera (Catalog # 8316-TR) coated at 125 ng/mL (100 µL/well). At 1.25 µg/mL, this antibody will block >90% of the binding.	

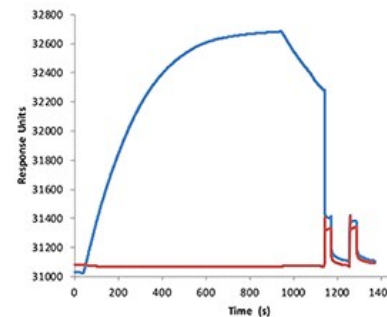
DATA

Blockade of Receptor-ligand Interaction



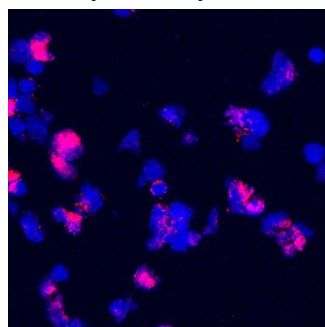
TMIGD2/CD28H Binding to B7-H7/HHLA2-transfected HEK293 Human Cell Line is Blocked by Human B7-H7/HHLA2 Antibody. In a functional flow cytometry test, biotinylated recombinant human TMIGD2/CD28H (10 ng/mL, Catalog # 8316-TR) binds to HEK293 human embryonic kidney cell line transfected with human B7-H7/HHLA2 (black dotted line). Binding is completely blocked (orange histogram) by 2.5 µg/mL of Mouse Anti-Human B7-H7/HHLA2 Monoclonal Antibody (Catalog # MAB80841). Mouse IgG1 Isotype Control (Catalog # MAB002) at 2.5 µg/mL was used as a control (blue line). Cells were stained with Streptavidin-APC (Catalog # F0050).

Blockade of Receptor-ligand Interaction



B7-H7 Binding to TMIGD2/CD28H Blocked by Human B7-H7/HHLA2 Antibody. In a Surface Plasmon Resonance test, Recombinant Human TMIGD2/CD28H Fc Chimera (Catalog # 8316-TR), coated at 10 ng/mL binds to Recombinant Human B7-H7/HHLA2 Fc Chimera (Catalog # 8084-B7, 5 µg/mL) (blue line). Binding is completely blocked (red) by 50 µg/mL of Mouse Anti-Human B7-H7/HHLA2 Monoclonal Antibody (Catalog # MAB80841). Mouse IgG1 isotype (Catalog # MAB002) and irrelevant mouse monoclonal antibody were used as controls and did not affect TMIGD2/CD28H binding to B7-H7/HHLA2 (not shown).

Immunocytochemistry



B7-H7/HHLA2 in Human PBMCs. B7-H7/HHLA2 was detected in immersion fixed human peripheral blood mononuclear cells (PBMCs) using Mouse Anti-Human B7-H7/HHLA2 Monoclonal Antibody (Catalog # MAB80841) at 25 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (red; Catalog # NL007) and counterstained with DAPI (blue). Specific staining was localized to cytoplasm. View our protocol for [Fluorescent ICC Staining of Non-adherent Cells](#).

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

BACKGROUND

B7-H7, also known as HHLA2 (HERV-H LTR-associating 2), is a member of the B7 family of immune regulatory proteins (1, 2). Mature human B7-H7 consists of a 322 amino acid (aa) extracellular domain (ECD) with three immunoglobulin-like domains, a 21 aa transmembrane segment, and a 49 aa cytoplasmic domain (3-5). B7-H7 is constitutively expressed on monocytes and is up-regulated by LPS and IFN- γ stimulation. It is expressed on LPS/IFN- γ treated B cells but not on resting B cells (5). B7-H7 binds to cell surface determinants on resting and mature T cells, B cells, and monocytes as well as on immature and mature dendritic cells (5). Soluble B7-H7 inhibits the proliferation of activated CD4⁺ and CD8⁺ T cells and their production of IFN- γ , TNF- α , IL-5, IL-10, IL-13, IL-17A, and IL-22 (5).

References:

1. Zou, W. and L. Chen (2008) *Nat. Rev. Immunol.* **8**:467.
2. Bour-Jordan, H. *et al.* (2011) *Immunol. Rev.* **241**:180.
3. Mager, D.L. *et al.* (1999) *Genomics* **59**:255.
4. Flajnik, M.M. *et al.* (2012) *Immunogenetics* **64**:571.
5. Zhao, R. *et al.* (2013) *Proc. Natl. Acad. Sci. USA* **110**:9879.