Human B7-2/CD86 Antibody

Monoclonal Mouse IgG_1 Clone # 1036411

Catalog Number: MAB108522

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human B7-2/CD86 in direct ELISAs.
Source	Monoclonal Mouse IgG_1 Clone # 1036411
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Human embryonic kidney cell, HEK293 derived human B7-2/CD86 Leu26-Pro247 Accession # NP_787058
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.

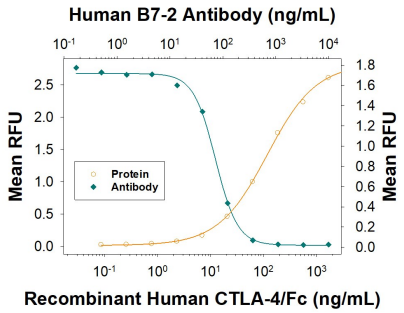
APPLICATIONS

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.*

Neutralization	In a functional ELISA binding assay, 15.0-150 ng/mL of this antibody will block 50% of the binding of 200 ng/mL of recombinant human CTLA-4/Fc (Catalog # 7868-CT) to immobilized recombinant human B7-2/His (Catalog # 9090-B2) coated at 0.5 µg/mL (100 µL/well). At 1.0 µg/mL, this antibody will block >90% of the binding.

DATA

Neutralization



CTLA-4/Fc-tag Binding to B7-2 is Blocked by Human B7-2/CD86 Antibody. In a functional ELISA binding assay, 15.0-150 ng/mL of this antibody will block 50% of the binding of 200 ng/mL of recombinant human CTLA-4/Fc (Catalog # 7868-CT) to immobilized recombinant human B7-2/His (Catalog # 9090-B2) coated at 0.5 µg/mL (100 µL/well). At 1.0 µg/mL, this antibody will block >90% of the binding.

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.
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

B7-2, also known as CD86, B70, and ETC-1, is a 60-100 kDa variably glycosylated protein in the B7 family. B7 family members are transmembrane cell surface molecules that play important roles in immune activation and the maintenance of immune tolerance (1, 2). Mature human B7-2 consists of a 224 amino acid (aa) extracellular domain (ECD) with two Ig-like domains, a 21 aa transmembrane segment, and a 61 aa cytoplasmic tail (3, 4). Within the ECD, human B7-2 shares 59% aa sequence identity with mouse and rat B7-2. Alternative splicing of human B7-2 generates additional isoforms that lack both Ig-like domains or a region that includes the transmembrane segment. B7-2 is highly expressed on activated antigen presenting cells (APC), e.g. B cells, dendritic cells, and monocytes (4-7), as well as on vascular endothelial cells (8). B7-2 and the closely related B7-1/CD80 exhibit overlapping but distinct functional properties. Their binding to CD28, which is constitutively expressed on T cells, enhances T cell receptor signaling and also provides TCR-independent co-stimulation (3-5, 7, 9-11). B7-1 and B7-2 additionally bind the CD28-related protein, CTLA-4, which is up-regulated and recruited to the immunological synapse (IS) at the onset of T cell activation (3-5, 7, 9, 10). CTLA-4 ligation inhibits the T cell response and supports regulatory T cell function (12). B7-2 is expressed earlier than B7-1 following APC activation (6), and both proteins bind with higher affinity to CTLA-4 than to CD28 (10). B7-2 promotes the stabilization of CD28 in the IS, while B7-1 is primarily responsible for promoting CTLA-4 recruitment and accumulation in the IS (13). The relative participation of B7-1 and B7-2 in T cell co-stimulation can also alter the Th1/Th2 bias of the immune response (14). Both B7-1 and B7-2 serve as cellular receptors for B species adenoviruses (15).

References:

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