

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat B7-2/CD86 in ELISAs and Western blots. In sandwich immunoassays, less than 20% cross-reactivity with recombinant mouse (rm) B7-2 is observed and less than 0.2% cross-reactivity with recombinant rat B7-1, rmB7-1, and recomb
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat B7-2/CD86 Val29-Ile250 Accession # O35531
Conjugate	Alexa Fluor 532 Excitation Wavelength: 534 nm Emission Wavelength: 553 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% 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.

CyTOF-ready	Optimal dilution of this antibody should be experimentally determined.
ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Flow Cytometry	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

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

For optimal T cell expansion and activation, a signal induced by the engagement of the T cell receptor and a "co-stimulatory" signal(s) through distinct T cell surface molecules are required. Members of the B7 superfamily of counter-receptors were identified by their ability to interact with co-stimulatory molecules found on the surface of T cells. Members of the B7 superfamily are type I membrane proteins and include B7-1 (CD80), B7-2 (CD86), B7-H1 (PD-L1), B7-H2 (B7RP-1), B7-H3, and PD-L2 (1). B7-2 is expressed constitutively at low levels on most Antigen Presenting Cells (APC) and is rapidly upregulated upon cell activation (2). T cells express two different receptors (CD28 and CTLA-4) capable of binding both B7-1 and B7-2 (2). B7-2 binds to CD28 with the low affinity but binds to CTLA-4 with intermediate affinity. In contrast, B7-1 binds CD28 with intermediate affinity and CTLA-4 with high affinity. Additionally, these molecules have different kinetics for binding CD28 and CTLA-4 with B7-2 having a higher-binding dissociation kinetics (1). Engagement of CD28 by B7-2 increases T cell proliferation and IL-2, IL-4, and IFN-γ production, thereby enhancing the immune response (3). In contrast, engagement of CTLA-4 is involved in the down-regulation of the immune response (4). Rat B7-2 cDNA encodes a 313 amino acid (aa) precursor protein containing an extracellular domain, a transmembrane domain, and a cytoplasmic domain. Rat and human B7-1 share 54% aa identity.

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