

DESCRIPTION

Species Reactivity	Rat
Specificity	Detects rat B7-2/CD86 in direct ELISAs and Western blots. In direct ELISAs and Western blots, no cross-reactivity with recombinant mouse (rm) B7-1, recombinant rat B7-1, rmB7-2, rmB7-H1, rmB7-H2, rmB7-H3, or rmPD-L2 is observed.
Source	Monoclonal Mouse IgG _{2B} Clone # 199602
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant rat B7-2/CD86 Val29-Ile250 Accession # NP_064466
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 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.

Western Blot 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.

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc, and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.