

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human B7-2/CD86 protein		
	Human B7-2/CD86 (Leu20-His239) Accession # AAB03814.1	DIEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence Analysis	Leu20		
Structure / Form	Disulfide-linked homodimer Labeled with Alexa Fluor® 488 via amines Excitation Wavelength: 488 nm Emission Wavelength: 515-545 nm		
Predicted Molecular Mass	52 kDa (monomer)		

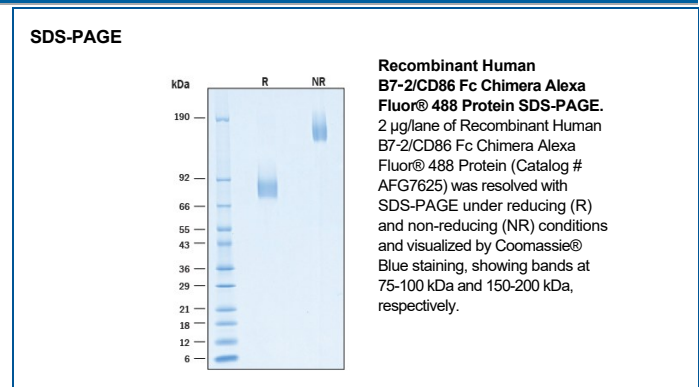
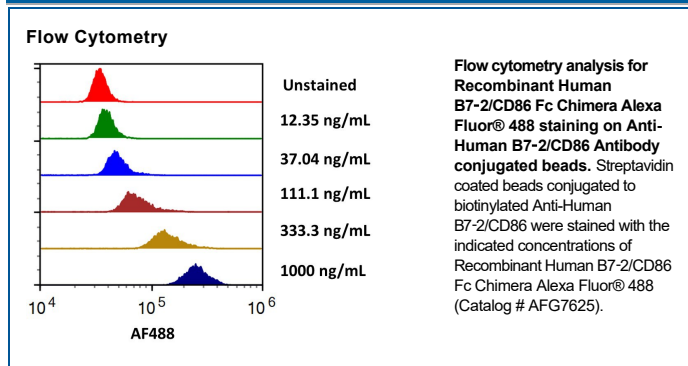
SPECIFICATIONS

SDS-PAGE	75-100 kDa, under reducing conditions.
Activity	Measured by flow cytometry for its ability to bind anti-human B7-2/CD86 Antibody conjugated beads. The concentration of Recombinant Human B7-2/CD86 Fc Chimera Alexa Fluor® 488 (Catalog # AFG7625) that produces 50% of the binding response is 50.0-500 ng/mL.
Endotoxin Level	<1.0 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE visualized with Silver Staining and quantitative densitometry by Coomassie® Blue Staining.
Formulation	Supplied as a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with dry ice or equivalent. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Use a manual defrost freezer and avoid repeated freeze-thaw cycles.

DATA



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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