

DESCRIPTION

Source	Human embryonic kidney cell, HEK293-derived B7-1/CD80 protein		
	Cynomolgus Monkey B7-1/CD80 (Val35-Asn242) Accession # XP_005548122	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus
N-terminal Sequence	Val35		
Analysis			
Structure / Form	Disulfide-linked homodimer		
Predicted Molecular Mass	51 kDa		

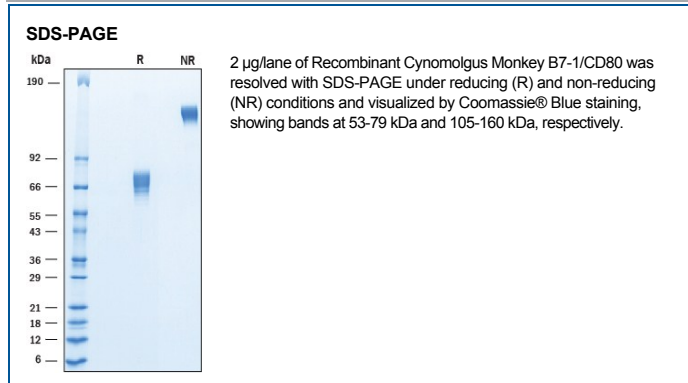
SPECIFICATIONS

SDS-PAGE	53-79 kDa, reducing conditions
Activity	Measured by its ability to induce IL-2 secretion by Jurkat human acute T cell leukemia cells. Freeman, G.J. <i>et al.</i> (1993) <i>Science</i> 262 :909. The ED ₅₀ for this effect is 0.75-4.5 µg/mL.
Endotoxin Level	<0.10 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	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 250 µg/mL in water.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	<ul style="list-style-type: none"> • 12 months from date of receipt, ≤ -20 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 3 months, ≤ -20 °C under sterile conditions after reconstitution.

DATA



BACKGROUND

B7-1/CD80 and B7-2/CD86, together with their receptors CD28 and CTLA-4, constitute one of the dominant co-stimulatory pathways that regulate T- and B-cell responses (1). Although both CTLA-4 and CD28 can bind to the same ligands, CTLA-4 binds to B7-1 and B7-2 with a 20-100-fold higher affinity than CD28 and is involved in the down-regulation of the immune response (2-5). B7-1 is expressed on activated B cells, activated T cells, and macrophages. B7-2 is constitutively expressed on interdigitating dendritic cells, Langerhans cells, peripheral blood dendritic cells, memory B cells, and germinal center B cells (2). Mature cynomolgus monkey B7-1 consists of a 213 amino acid (aa) extracellular domain (ECD) with two immunoglobulin-like domains, a 22 aa transmembrane domain, and a 20 aa cytoplasmic domain. Within the ECD, cynomolgus monkey B7-1 shares 97% and 51% aa sequence identity with human and mouse B7-1, respectively. The B7/CD28/CTLA4 pathway has the ability to both positively and negatively regulate immune responses. CD80 is thus regarded as promising therapeutic targets for autoimmune diseases and various carcinomas (6).

References:

1. Ville, S. *et al.* (2015) *Front. Immunol.* **6**:411.
2. Azuma, M. *et al.* (1993) *Nature* **366**:76.
3. Freeman, G.J. *et al.* (1993) *Science* **262**:909.
4. Chen, C. *et al.* (1994) *J. Immunol.* **152**:4929.
5. Freeman, G.J. *et al.* (1993) *J. Exp. Med.* **178**:2185.
6. Mir, M.A., *et al.* (2008) *Expert Opin. Ther. Targets* **12**:969.