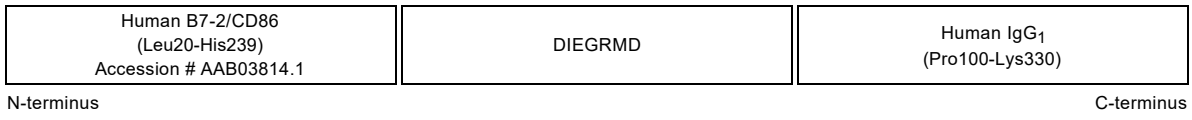
Recombinant Human B7-2/CD86 Fc Chimera

Catalog Number: 7625-B2

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human B7-2/CD86 protein



N-terminal Sequence Analysis	Leu20
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	52 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	75-100 kDa, reducing conditions
Activity	Measured by its ability to induce IL-2 secretion by Jurkat human acute T cell leukemia cells. Freeman, G.J. *et al.* (1993) Science **262**:909. The ED_{50} for this effect is 0.04-0.2 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. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in 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. • 3 months, -20 to -70 °C under sterile conditions after reconstitution.

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:

1. Greenwald, R.J. *et al.* (2005) Annu. Rev. Immunol. **23**:515.
2. Bour-Jordan, H. *et al.* (2011) Immunol. Rev. **241**:180.
3. Freeman, G.J. *et al.* (1993) Science **262**:909.
4. Azuma, M. *et al.* (1993) Nature **366**:76.
5. Freeman, G.J. *et al.* (1993) J. Exp. Med. **178**:2185.
6. Lenschow, D.J. *et al.* (1993) Proc. Natl. Acad. Sci. USA **90**:11054.
7. Hathcock, K.S. *et al.* (1993) Science **262**:905.
8. Seino, K. *et al.* (1995) Int. Immunol. **7**:1331.
9. Chen, C. *et al.* (1994) J. Immunol. **152**:4929.
10. Lanier, L.L. *et al.* (1995) J. Immunol. **154**:97.
11. Rudd, C.E. *et al.* (2009) Immunol. Rev. **229**:12.
12. Wing, K. *et al.* (2011) Trends Immunol. **32**:428.
13. Pentcheva-Hoang, T. *et al.* (2004) Immunity **21**:401.
14. Kuchroo, V.K. *et al.* (1995) Cell **80**:707.
15. Short, J.J. *et al.* (2006) Virus Res. **122**:144.

bio-techne®
Global bio-techne.com info@bio-techne.com techsupport@bio-techne.com TEL +1 612 379 2956
USA TEL 800 343 7475 Canada TEL 855 668 8722 China TEL +86 (21) 52380373
Europe | Middle East | Africa TEL +44 (0)1235 529449