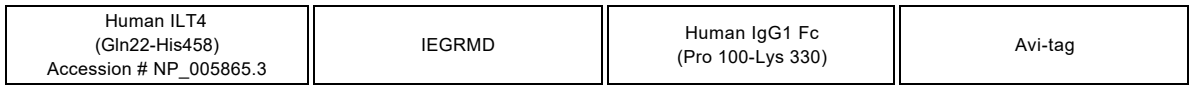
Biotinylated Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera Avi-tag

Catalog Number: AVI2078

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human LILRB2/CD85d/ILT4 protein



N-terminal Sequence Analysis	No results obtained, Gln22 inferred from enzymatic pyroglutamate treatment revealing Thr23
Structure / Form	Biotinylated via Avi-tag.
Predicted Molecular Mass	76 kDa

SPECIFICATIONS

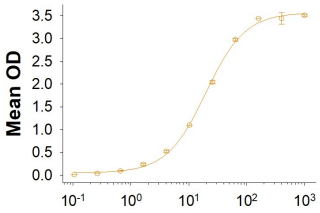
SDS-PAGE	90-100 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human Angiopoietin-like Protein 2/ANGPTL2 C-Terminal Fragment (Catalog # 9795-AN) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera Avi-tag (Catalog # AVI2078) binds with an ED_{50} of 10-80 ng/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 500 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.

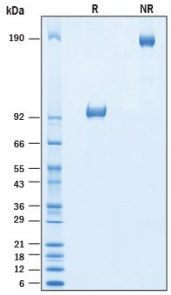
DATA

Binding Activity



Biotinylated Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera Avi-tag Protein Binding Activity. When Recombinant Human Angiopoietin-like Protein 2/ANGPTL2 C-Terminal Fragment (Catalog # 9795-AN) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera Avi-tag (Catalog # AVI2078) binds with an ED_{50} of 10-80 ng/mL.

SDS-PAGE



Biotinylated Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human LILRB2/CD85d/ILT4 Fc Chimera Avi-tag Protein (Catalog # AVI2078) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 90-100 kDa and 180-200 kDa, respectively.

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BACKGROUND

The immunoglobulin-like transcript (ILT) comprise a family of activating and inhibitory type immunoreceptors whose genes are located in the same locus that encodes killer cell Ig-like receptors (KIR) (1-3). ILT4, also known as LIR-2 and LILRB2, is a type I transmembrane protein expressed primarily on monocytes and dendritic cells (DC) (4). Human ILT4 is produced as a 598 amino acid (aa) precursor including a 21 aa signal sequence, a 440 aa extracellular domain (ECD), a 21 aa transmembrane segment, and a 116 aa cytoplasmic domain. The ECD contains four Ig-like domains, and the cytoplasmic domain contains three immunoreceptor tyrosine-based inhibitory motifs (ITIM) (5). The ECD of human ILT4 shares 76% aa identity with chimpanzee ILT4 and 74%, 81%, 33%, 52%, 77%, 61%, and 64 % aa identity with human ILT1, 2, 3, 5, 6, 7, and 8, respectively. ILT4 binds to classical MHC I proteins as well as the non-classical HLA-G1 and HLA-F molecules (5-9). It competes with CD8α for MHC I binding but does not compete with KIR2DL1 (7). Ligation of ILT4 induces Tyr phosphorylation within its cytoplasmic ITIMs, a requirement for association with SHP-1 (4, 6). Activation of ILT4 inhibits signaling through Fcγ RI (4) and Fcε RI (6) and causes DC to become tolerogenic by down-regulation of co-stimulatory molecules (10, 11). ILT4 mediates tolerogenic DC-induced $CD4^+$ T cell energy in vitro and in vivo (10-12). Our Avi-tag Biotinylated human LILRB2/CD85d/ILT4 features biotinylation at a single site contained within the Avi-tag, a unique 15 amino acid peptide. Protein orientation will be uniform when bound to streptavidin-coated surface due to the precise control of biotinylation and the rest of the protein is unchanged so there is no interference in the protein's bioactivity.

References:

1. Suciu-Foca, N. *et al.* (2005) Int. Immunopharmacol. **5**:7.
2. Hofmeister, V. and E.H. Weiss (2003) Semin. Canc. Biol. **13**:317.
3. Hunt, J.S. *et al.* (2005) FASEB J. **19**:681.
4. Finger, N.A. *et al.* (1998) Eur. J. Immunol. **28**:3423.
5. Borges, L. *et al.* (1997) J. Immunol. **159**:5192.
6. Colonna, M. *et al.* (1998) J. Immunol. **160**:3096.
7. Shiroishi, M. *et al.* (2003) Proc. Natl. Acad. Sci. **100**:8856.
8. Lepin, E.J.M. *et al.* (2000) Eur. J. Immunol. **30**:3552.
9. Allen, R.L. *et al.* (2001) J. Immunol. **167**:5543.
10. Chang, C.C. *et al.* (2002) Nat. Immunol. **3**:237.
11. Ristich, V. *et al.* (2005) Eur. J. Immunol. **35**:1133.
12. Manavalan, J.S. *et al.* (2003) Transpl. Immunol. **11**:245.

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