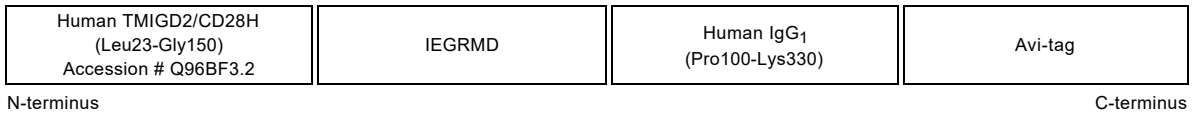
Biotinylated Recombinant Human TMIGD2/CD28H Fc Chimera Avi-tag

Catalog Number: AVI8316

DESCRIPTION

Source	Chinese Hamster Ovary cell line, CHO-derived human TMIGD2/CD28H protein



N-terminal Sequence Analysis	Leu23
Structure / Form	Disulfide-linked homodimer Biotinylated via Avi-tag
Predicted Molecular Mass	43 kDa

SPECIFICATIONS

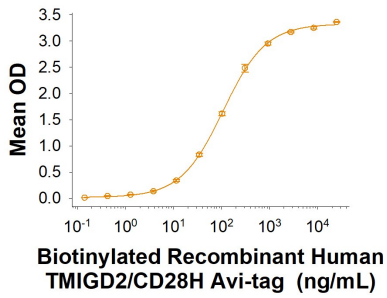
SDS-PAGE	57-64 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human B7-H7 Fc Chimera (Catalog # 8084-B7) is immobilized at 1.00 µg/mL (100 µL/well), Biotinylated Recombinant Human TMIGD2/CD28H Fc Chimera Avi-tag (Catalog # AVI8316) binds with an ED_{50} of 50.0-500 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 250 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.

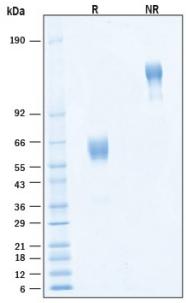
DATA

Binding Activity



Biotinylated Recombinant Human TMIGD2/CD28H Fc Chimera Avi-tag Protein Binding Activity. Measured by its binding ability in a functional ELISA. When Recombinant Human B7-H7 Fc Chimera (Catalog # 8084-B7) is immobilized at 1.00 µg/mL (100 µL/well), Biotinylated Recombinant Human TMIGD2/CD28H Fc Chimera Avi-tag Protein (Catalog # AVI8316) binds with an ED_{50} of 50.0-500 ng/mL

SDS-PAGE



Biotinylated Recombinant Human TMIGD2/CD28H Fc Chimera Avi-tag Protein SDS-PAGE. 2 µg/lane of Biotinylated Recombinant Human TMIGD2/CD28H Fc Chimera Avi-tag Protein (Catalog # AVI8316) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 57-64 kDa and 114-122 kDa, respectively.

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BACKGROUND

CD28 homolog (CD28H), also called TMIG2 and IGPR-1, is a 55 kDa glycosylated transmembrane protein that shares approximately 10% amino acid (aa) sequence identity with CD28, CTLA-4, ICOS, and PD-1. CD28H is composed of a single extracellular immunoglobulin variable-like domain (IgV) (aa 23-109), a transmembrane domain (aa 151-171), and a long cytoplasmic domain (aa172-282). CD28H is constitutively expressed on naive T and NK cells. Similar to the interaction of B7 with CD28, the interaction of CD28H with B7-H7 activates the Akt-dependent signaling cascade and promotes the proliferation and activation of newly generated peripheral effector and memory T cells (1, 2). CD28H is additionally expressed in the skin and epithelium lining the lung, airway, mammary gland, and gastrointestinal tract (3). It regulates cellular morphology, focal adhesion contact formation, and cell migration (3, 4). CD28H also participates in angiogenesis in vitro (3). CD28H interacts with multiple cytoskeletal proteins including Actin, Paxillin, SPIN90, CACNB2, and BPAG1. Interactions between the cytoplasmic proline-rich domain of CD28H and SPIN90 modulate the activity of CD28H in both angiogenesis and cell adhesion (3, 5). Our Avi-tag Biotinylated human CD28H Fc chimera 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. Zhu, Y. *et al.* (2013) Nat. Commun. **4**:2043.
2. Parry, R.V. *et al.* (2003) J.Immunol. **171**:166.
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5. Kaneko, T. *et al.* (2008) Front. Biosci. **13**:4938.

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