Biotinylated Recombinant Human TROP-2 Fc Chimera Avi-tag

Catalog Number: AVI11258

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human TROP-2 protein

Human TROP-2 (His27-Thr274) Accession # P09758.3	IEGRMD	Human IgG_1 (Pro100-Lys330)	Avi-tag

N-terminus C-terminus

N-terminal Sequence Analysis	No results obtained: His27 predicted by protein ID
Structure / Form	Disulfide-linked homodimer Biotinylated via Avi-tag
Predicted Molecular Mass	56 kDa (monomer)

SPECIFICATIONS

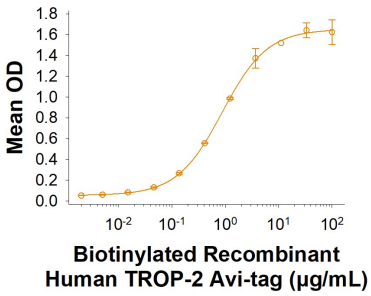
SDS-PAGE	65-80 kDa, under reducing conditions.
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human IGF-II R/IGF2R (Catalog # 6418-GR) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human TROP-2 Fc Chimera Avi-tag (Catalog # AVI11258) binds with an ED_{50} of 0.300-2.70 µg/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>90%, 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.

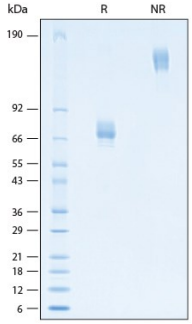
DATA

Binding Activity



Biotinylated Recombinant Human TROP-2 Fc Chimera Avi-tag Protein Binding Activity. When Recombinant Human IGF-II R/IGF2R (Catalog # 6418-GR) is immobilized at 1 µg/mL (100 µL/well), Biotinylated Recombinant Human TROP-2 Fc Chimera Avi-tag Protein (Catalog # AVI11258) binds with an ED_{50} of 0.300-2.70 µg/mL.

SDS-PAGE



Recombinant Human TROP-2 Fc Chimera Avi-tag Protein SDS-PAGE. 2 µg/lane of Recombinant Human TROP-2 Fc Chimera Avi-tag Protein (Catalog # AVI11258) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 65-80 kDa and 120-160 kDa, respectively.

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BACKGROUND

Human TROP-2, also called tumor associated calcium signal transducer 2 (TACSTD2), GA733-1, gp50 and T16, is a type I cell surface glycoprotein that is highly expressed on human carcinomas. It was originally identified as an antigen present on human gastrointestinal tumors and is the second of two members of this family. The other family member is GA733-2, also called EpCAM, TROP-1, 17-1A, gp40 and KSA. The TROP-2 gene is unique in that it contains no introns. A study of these two genes suggested that TROP-2 was the result of a retroposition of the EpCAM gene. TROP-2 and EpCAM share approximately 49% amino acid identity and approximately 67% similarity. Human and mouse TROP-2 share 87% similarity. The human TROP-2 protein consists of a putative 26 amino acid (aa) signal sequence, a 248 aa extracellular domain, a 23 aa transmembrane region and a 26 aa cytoplasmic domain. TROP-2 is transducing an intracellular calcium signal and may play a role in tumor growth. TROP-2 is associated with EGF mutation and resistance to drug treatment in many tumors. It has been discovered to bind to IGF IIR and promote IGF2-IGF1R-Akt (6). TROP-2 has emerged as a novel cancer target and a target for antibody-drug conjugates (7). TROP-2 interacts with ADAM-10 and binds E-Cadherin stimulating ADAM-10 mediated cleavage (8). Our Avi-tag Biotinylated human TROP-2 Fc chimera protein 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:

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6. Sun, X. *et al.* (2021) J. Cancer **12**:5310.
7. Goldenberg, D. M. *et al.* (2018) Oncotarget. **9**:28989.
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