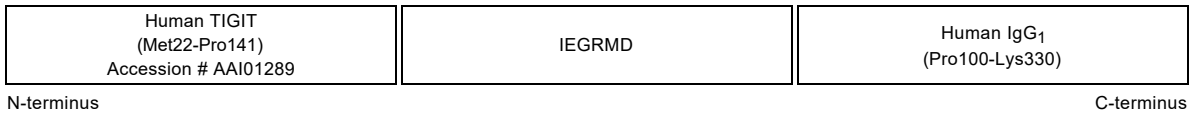
Recombinant Human TIGIT Fc Chimera

Catalog Number: 7898-TG

DESCRIPTION

Source

Chinese Hamster Ovary cell line, CHO-derived human TIGIT protein



N-terminal Sequence Analysis	Met22
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	39.6 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	40-55 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human CD155/PVR (Catalog # 2530-CD) is coated at 2.5 µg/mL (100 µL/well), the concentration of Recombinant Human TIGIT Fc Chimera that produces 50% optimal binding response is typically 20-100 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. 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

TIGIT (T cell Immunoreceptor with Ig and ITIM domains), also called Vstm3 (V-set and transmembrane domain-containing 3), Vsig9 (V-set and Ig domain-containing 9) and WUCAM (Washington University cell adhesion molecule) is a 30-34 kDa type I transmembrane protein that is a member of the CD28 family within the Ig superfamily of proteins (1-4). Human TIGIT cDNA encodes 244 amino acids (aa) including a 21 aa signal sequence, a 120 aa extracellular region with a V-type Ig-like domain and two potential N-glycosylation site, a 21 aa transmembrane sequence, and an 82 aa cytoplasmic domain with an ITIM motif (5). A 170 aa variant diverges after aa 166 (5). Within the ECD, human TIGIT shares only 68-75% aa sequence identity with mouse, porcine, canine, equine and bovine TIGIT. TIGIT is expressed on NK cells and subsets of activated, memory and regulatory T cells, and particularly on follicular helper T cells within secondary lymphoid organs (1, 2, 6-8). It binds to CD155/PVR/Necl-5 and Nectin-2/CD112/PVRL2 that appear on dendritic cells (DC) and endothelium (1-3, 7). Binding of TIGIT by DC induces IL-10 release and inhibits IL-12 production (2). Ligation of TIGIT on T cells down-regulates TCR-mediated activation and subsequent proliferation, while NK cell TIGIT ligation blocks NK cell cytotoxicity (6-8). Through CD155 and Nectin-2, which also interact with DNAM-1/CD226 and CD96/Tactile, TIGIT is part of an interacting network of Ig superfamily members that may augment or oppose each other (3, 4, 6, 7). In particular, TIGIT binding to CD155 can antagonize the effects of DNAM-1 (6, 7). Soluble TIGIT is able to compete with DNAM-1 for CD155 binding and attenuates T cell responses, while mice lacking TIGIT show increased T cell responses and susceptibility to autoimmune challenges (2, 3, 8).

References:

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7. Stanietsky, N. *et al.* (2009) Proc. Natl. Acad. Sci. USA **106**:17858.
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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