Recombinant Human TAPBPR Fc Chimera

Catalog Number: 11171-TP

DESCRIPTION

Source

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

Human TAPBPR (Ala19-Arg404) Accession # Q9BX59.2	IEGRMD	Human IgG_1 (Pro100-Lys330)

N-terminus C-terminus

N-terminal Sequence Analysis	Ala19
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	68 kDa

SPECIFICATIONS

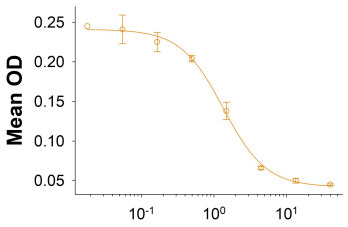
SDS-PAGE	75-90 kDa, under reducing conditions.
Activity	Measured by its ability to inhibit anti-CD3 antibody induced IL-2 or IFN-gamma secretion by human T cells. The ED_{50} for this effect is 0.500-10.0 µg/mL.
Endotoxin Level	<0.50 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE 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.

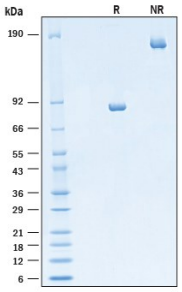
DATA

Bioactivity



Recombinant Human TAPBPR Fc Chimera Protein Bioactivity. Measured by its ability to inhibit anti-CD3 antibody induced IL-2 secretion by human T cells. The ED_{50} for this effect 0.500-10.0 µg/mL.

SDS-PAGE



Recombinant Human TAPBPR Fc Chimera Protein SDS-PAGE. 2 µg/lane of Recombinant Human TAPBPR Fc Chimera Protein (Catalog # 11171-TP) was resolved with SDS-PAGE under reducing (R) and non-reducing (NR) conditions and visualized by Coomassie® Blue staining, showing bands at 75-90 kDa and 150-180 kDa, respectively.

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BACKGROUND

TAP-binding protein-like (TAPBPL), also known as TAP binding protein-related (TAPBPR) and Tapasin-related protein (TAPASINR) is a transmembrane protein of the Immunoglobulin (Ig) superfamily (1, 2). TAPBPR was originally isolated as a homologue to TAPASIN but more recently was identified as a novel B7 family-related molecule since it shares sequence, structural, and functional similarities to B7 family members (3). Mature human TAPBPR consists of a lumenal domain containing an IgV and IgC domain, a transmembrane domain, and a cytoplasmic tail which lacks an ER retention motif. Within the lumenal domain, mature human TAPBPR shares 70% and 71% amino acid sequence identity with mouse and rat TAPBPR, respectively. Multiple alternatively spliced TAPBPR isoforms are known to exist with unique properties (4).TAPBPR is widely expressed and, similar to TAPASIN, functions as a both a chaperone protein and peptide editor of MHC class I, but in a peptide-loading complex (PLC) independent manner (5, 6). TAPBPR decreases the rate at which MHC class I molecules mature through the secretory pathway, a role which could be important for peptide selection by MHC class I molecules (7). TAPBPR is also expressed on the surface of T cells and antigen-presenting cells (APCs) and plays an inhibitory role in the proliferation and activation of T cells (4). TAPBPR can be expressed on various cancer cells like leukemia and has the potential to be used in the treatment of autoimmune diseases and transplant rejection, as well as cancer (4).

References:

1. Hermann, C. *et al.* (2015) Tissue antigens **85(3)**:155.
2. Teng, M. *et al.* (2002) European Journal of Immunology **32**:1059.
3. Lin, Y. *et al.* (2021). EMBO Mol Med. **13(5)**:13404.
4. Porter, K.M. *et al.* (2014) Immunology **142**:289.
5. Margulies, D. *et al.* (2020) Current Opinion in Immunology **64**:71.
6. Boyle, L.H. *et al.* (2013) PNAS **110**:3465.
7. Hermann, C. *et al.* (2013) Journal of Immunology **191(11)**:5743.

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