Recombinant Human DR3/TNFRSF25 Fc Chimera

Catalog Number: 943-D3

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived

Human DR3 (Gln25-Phe201) & (Arg29-Phe201) Accession # Q93038.2	IEGRMD	Human IgG_1 (Pro100-Lys330)	6-His tag

N-terminus C-terminus

N-terminal Sequence Analysis	Arg29 & No results obtained: Gln25 predicted
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	46.6 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	50-65 kDa, reducing conditions
Activity	Measured by its binding ability in a functional ELISA. When Recombinant Human TL1A/TNFSF15 (Catalog # 1319-TL/CF) is immobilized at 2 µg/mL (100 µL/well), the concentration of Recombinant Human DR3/TNFRSF25 Fc Chimera that produces 50% of optimal binding response is approximately 0.5-2.5 µg/mL.
Endotoxin Level	<1.0 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 and EDTA. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile 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. ● 3 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Death receptor 3 (DR3), also known as lymphocyte-associated receptor of death (LARD), WSL-1, APO3, TRAMP and TR3, is a glycoprotein belonging to the TNF receptor superfamily (TNFRSF) (1 - 5). DR3 was formerly designated TNFRSF12 when it was thought to be a receptor for TWEAK/TNFSF12 (6). However, work disavowed the DR3:TWEAK interaction and DR3 is now designated TNFRSF 25 (7). By alternative splicing, at least 11 distinct human DR3 transcripts encoding secreted or type I membrane proteins exist (7). The human DR3 isoform 1 cDNA encodes a 417 amino acid residue (aa) transmembrane precursor with a 24 aa signal peptide, a 175 aa extracellular domain containing four cysteine-rich repeats and two potential N-glycosylation sites, a 21 aa transmembrane region and a 195 aa cytoplasmic region with one death domain. DR3 is one of six within the TNF R superfamily that contains a death domain in its cytoplasmic region. It is most closely related to TNF R1 and FAS/CD95, sharing 29% and 23% aa sequence identity, respectively. DR3 is expressed primarily in tissues enriched in lymphocytes. Whereas naïve B and T cells express multiple truncated DR3 isoforms but not the transmembrane isoform 1, upon T cell activation, expression of the transmembrane DR3 isoform 1 predominates. TL1A/VEGI, a TNF superfamily ligand, has been shown to bind and activate DR3 (8). Depending on the cell context, ligation of DR3 by TL1A can trigger one of two signaling pathways. On primary T cells, TL1A induces NF-kappa-B activation and a costimulatory signal to increase IL-2 responsiveness and the secretion of proinflammatory cytokines. However, in a tumor cell line, TF-1, TL1A has been shown to induce caspase activity and apoptosis. In DR3-null mice, an impairment of negative selection and anti-CD3-mediated thymocyte apoptosis is observed.

References:

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8. Migone, T-S. *et al.* (2002) Immunity **16**:479.

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