

DESCRIPTION

Source	<i>Spodoptera frugiperda</i> , Sf 21 (stably transfected)-derived mouse TWEAK R/TNFRSF12 protein		
	Mouse TWEAK R (Glu28-Trp79) Accession # Q9CR75	IEGRMD	Human IgG ₁ (Pro100-Lys330)
	N-terminus		C-terminus

N-terminal Sequence Analysis	Glu28
Structure / Form	Disulfide-linked homodimer
Predicted Molecular Mass	32 kDa (monomer)

SPECIFICATIONS

SDS-PAGE	39 kDa, reducing conditions
Activity	Measured by its ability to inhibit the TWEAK-dependent proliferation of HUVEC human umbilical vein endothelial cells. The ED ₅₀ for this effect is 0.5-6 µg/mL in the presence of 1 µg/mL recombinant mouse TWEAK.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
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 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. <ul style="list-style-type: none"> ● 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

TNF-related weak inducer of apoptosis receptor (TWEAK R) belongs to the TNF receptor superfamily and is designated TNFRSF12. The gene for TWEAK R was originally identified as a fibroblast growth factor-inducible immediate-early response gene Fn14 in mouse NIH 3T3 fibroblasts (1, 2). Mouse TWEAK R cDNA encodes a 129 amino acid (aa) residues type I transmembrane protein with a 27 aa signal peptide, a 53 aa extracellular domain, a 21 aa transmembrane domain and a 28 aa cytoplasmic domain (1-3). Human and mouse TWEAK R share 82% aa sequence identity. TWEAK R is the smallest member of the TNF receptor superfamily and contains only one cysteine-rich region in its extracellular domain. The TWEAK R cytoplasmic domain contains one TRAF binding motif which binds TRAFs 1, 2, and 3. TWEAK R binds its ligand TWEAK/TNFSF12 with high affinity to initiate a signal transduction cascade that depending upon the cell type, may lead to a variety of cellular responses including cell death by both caspase-dependent apoptosis and cathepsin B-dependent necrosis, cell proliferation, and angiogenesis (2-6). In newborn mice, TWEAK R is highly expressed in all tissues examined (heart, intestine, kidney, liver, lung and skin) (1). In adult mice, high TWEAK R expression levels are found in the heart and ovary, while lower expression levels are detected in the lung, kidney, skin. Elevated levels of TWEAK R mRNA were found in human or mouse hepatocellular carcinoma specimens, in regenerating mouse liver and in injured rat arteries (2, 3).

References:

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3. Wiley, S. *et al.* (2001) *Immunity* **15**:837.
4. Schneider, P. *et al.* (1999) *Eur. J. Immunol.* **29**:1785.
5. Nakayama, M. *et al.* (2002) *J. Immunol.* **168**:734.
6. Lynch, C.N. *et al.* (1999) *J. Biol. Chem.* **274**:8455.