

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human TWEAK R/TNFRSF12 in direct ELISAs and Western blots. Shows approximately 40% cross-reactivity with recombinant mouse TWEAK R and no cross-reactivity with recombinant human (rh) OPG or rhTNF RI.
Source	Monoclonal Rat IgG _{2A} Clone # 314502
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	<i>E. coli</i> -derived recombinant human TWEAK R/TNFRSF12 Glu28-Trp79 Accession # Q9NP84.1
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human TWEAK R/TNFRSF12 Fc Chimera (Catalog # 1199-TW)

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
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. ● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

The gene for TNF-related weak inducer of apoptosis receptor (TWEAK R) was originally identified as a fibroblast growth factor-inducible immediate-early response gene Fn14 in mouse NIH 3T3 fibroblasts (1, 2). Human TWEAK R cDNA encodes a 129 amino acid (aa) residue 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/TNFRSF12 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, 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:

1. Meighan-Mantha, R. *et al.* (1999) *J. Biol. Chem.* **274**:33166.
2. Feng, S. *et al.* (2000) *Am J. Pathol.* **156**:1253.
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.