Recombinant Human TWEAK/TNFSF12

Catalog Number: 1090-TW

DESCRIPTION

Source	*E. coli*-derived human TWEAK/TNFSF12 protein Arg93-His249, with an N-terminal Met and 6-His tag Accession # Q4ACW9
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	18.3 kDa

SPECIFICATIONS

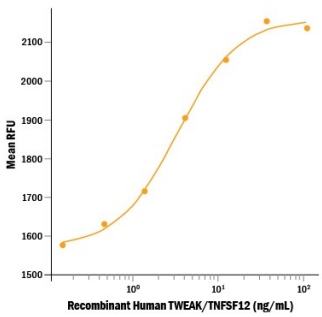
Activity	Measured in a cell proliferation assay using HUVEC human umbilical vein endothelial cells. The ED_{50} for this effect is 0.200-4.00 ng/mL.
Endotoxin Level	<0.10 EU per 1 µg of the protein by the LAL method.
Purity	>95%, by SDS-PAGE under reducing conditions and visualized by silver stain.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 100 µg/mL in sterile PBS containing at least 0.1% human or bovine serum albumin.
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.

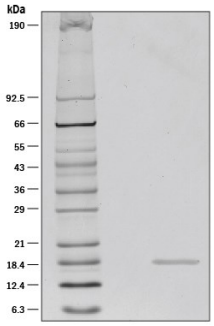
DATA

Bioactivity



Recombinant Human TWEAK/TNFSF12 Protein Bioactivity Recombinant Human TWEAK/TNFSF12 (Catalog # 1090-TW) stimulates cell proliferation in HUVEC human umbilical vein endothelial cells. The ED_{50} is 2-8 ng/mL.

SDS-PAGE



Recombinant Human TWEAK/TNFSF12 Protein SDS-PAGE 1 µg/lane of Recombinant Human TWEAK/TNFSF12 was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 19 kDa.

BACKGROUND

TWEAK is a type II transmembrane protein belonging to the TNF superfamily (1). It contains a short cytoplasmic domain (aa 1-18), the transmembrane domain (aa 19-42) and an extracellular domain (aa 43-249). The extracellular domains of human and murine TWEAK share 89% aa sequence identity. A soluble form of TWEAK is generated from the membrane-associated molecules by proteolytic cleavage after Arg 93 suggesting that TWEAK may have long-range effects. TWEAK is expressed widely in many tissues and cells. At least two receptors that bind TWEAK have been identified (2-4). Death Receptor 3 (DR3), also known as TNFRSF12, Apo-3, LARD, WSL-1 or TRAMP, is a TNF receptor superfamily member that is expressed predominantly in tissues with high lymphocyte content (2). It has been suggested that induction of cell death by TWEAK-DR3 interaction involves the activation of NF-κB. In cells that lack DR3, alternate pathways of TWEAK-induced cell death mediated by receptors distinct from DR3 have been suggested (5, 6). TWEAK receptor (TWEAKR, alternatively known as FN14), is a novel TNF receptor superfamily member that also binds TWEAK (3, 4). It is a mitogen-inducible gene that is expressed in fibroblasts, hepetocellular carcinomas and endothelial cells. TWEAK-TWEAKR interaction has been shown to play a role in endothelial cell growth and migration. This effect of TWEAK is not mediated by an up-regulation of VEGF (7).

References:

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