

DESCRIPTION

Source Mouse myeloma cell line, NS0-derived mouse TRANCE/TNFSF11/RANK L protein
Arg72-Asp316, with an N-terminal Met-His6 tag
Accession # O35235.1

N-terminal Sequence Analysis Met-His

Predicted Molecular Mass 28 kDa

SPECIFICATIONS

SDS-PAGE 32-37 kDa, under reducing conditions.

Activity Measured by its ability to induce osteoclast differentiation of RAW 264.7 mouse monocyte/macrophage cells.
The ED₅₀ for this effect is 1.00-10.0 ng/mL.

Endotoxin Level <0.10 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 MOPS and NaCl. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Reconstitution Reconstitute at 250 µg/mL in water.

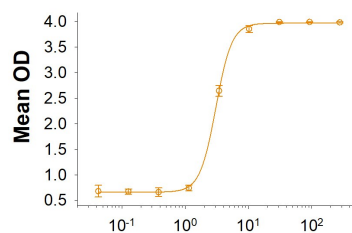
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.

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 Mouse TRANCE/TNFSF11/RANK L His-tag Protein Bioactivity.
Measured by its ability to induce osteoclast differentiation of RAW 264.7 mouse monocyte/macrophage cells. The ED₅₀ for this effect is 1.00-10.0 ng/mL.

BACKGROUND

TRANCE (receptor activator of NF-κB ligand [RANK L], also called TNF-related activation-induced cytokines, osteoprotegerin ligand [OPGL], and osteoclast differentiation factor [ODF]), is a member of the tumor necrosis factor (TNF) family. In the TNF superfamily nomenclature, TRANCE is referred to as TNFSF11. TRANCE was originally identified as an immediate early gene upregulated by T cell receptor stimulation. The murine TRANCE cDNA encodes a type II transmembrane protein of 316 amino acids with a predicted cytoplasmic domain of 48 amino acids and an extracellular domain of 247 amino acids. The extracellular domain contains two potential N-linked glycosylation sites. Mouse and human TRANCE share 85% amino acid identity. TRANCE is primarily expressed in T cells and T cell rich organs, such as thymus and lymph nodes. The multi-functions of TRANCE include induction of activation of the c-jun N-terminal kinase, enhancement of T cell growth and dendritic cell function, induction of osteoclastogenesis, and lymph node organogenesis. RANK is the cell surface signaling receptor of TRANCE. RANK has been shown to undergo receptor clustering during signal transduction. Osteoprotegerin, a soluble member of the TNF receptor family which binds TRANCE, is a naturally occurring decoy receptor that counterbalances the effects of TRANCE.

References:

1. Wong, B.R. *et al.* (1997) J. Biol. Chem. **272**:25190.
2. Anderson, D.M. *et al.* (1997) Nature **390**:175.
3. Nakagawa, N. *et al.* (1998) Biochem. Biophys. Res. Commun. **245**:382.
4. Kong, Y-Y. *et al.* (1999) Nature **397**:315.