

DESCRIPTION

Source	<i>E. coli</i> -derived mouse TRANCE/TNFSF11/RANK L protein Lys158-Asp316, with an N-terminal Met Accession # Q3TWY5
N-terminal Sequence Analysis	Met
Predicted Molecular Mass	19 kDa

SPECIFICATIONS

Activity	Measured by its ability to induce osteoclast differentiation of RAW 264.7 mouse monocyte/macrophage cells. The ED ₅₀ for this effect is 0.5-2 ng/mL.
Endotoxin Level	<0.01 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 NaH ₂ PO ₄ , NaCl and EDTA with BSA as a carrier protein. 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.

DATA

<p>Bioactivity</p> <p>Recombinant Mouse TRANCE/TNFSF11/RANK L (Catalog # 462-TEC) induces osteoclast differentiation of the RAW 264.7 mouse monocyte/macrophage cell line. The ED₅₀ for this effect is 0.5-2 ng/mL.</p>	<p>SDS-PAGE</p> <p>1 µg/lane of Recombinant Mouse TRANCE/TNFSF11/RANK L was resolved with SDS-PAGE under reducing (R) conditions and visualized by silver staining, showing a single band at 19 kDa.</p>
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BACKGROUND

TRANCE (receptor activator of NF-κB ligand [RANK L], also called TNF-related activation-induced cytokine [TRANCE], osteoprotegrin ligand [OPGL], and osteoclast differentiation factor [ODF]), is a member of the tumor necrosis factor (TNF) family. TRANCE was originally identified as an immediate early gene up-regulated by T cell receptor stimulation. The mouse 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. Osteoprotegrin, 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.