Recombinant Mouse TRANCE/TNFSF11/RANK L

Catalog Number: 462-TR/CF

DESCRIPTION

Source	Mouse myeloma cell line, NS0-derived Arg72-Asp316, with an N-terminal 6-His tag Accession # O35235
N-terminal Sequence Analysis	His
Predicted Molecular Mass	28 kDa

SPECIFICATIONS

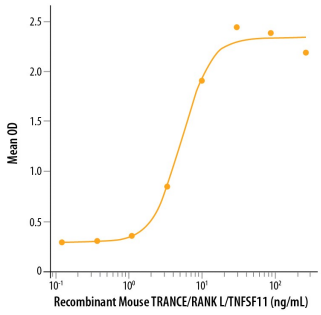
SDS-PAGE	36 kDa, reducing conditions
Activity	Measured by its ability to induce osteoclast differentiation of RAW 264.7 mouse monocyte/macrophage cells. The ED_{50} for this effect is 5-15 ng/mL in the presence of 2.5 µg/mL of a cross-linking antibody, Mouse Anti-polyHistidine Monoclonal Antibody (Catalog # MAB050). An *E. coli*-expressed Recombinant Mouse (rm) TRANCE (aa 158-317) (Catalog # 462-TEC) is also available. The ED_{50} for the *E. coli*-expressed rmTRANCE is 0.5-2 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	Supplied as a 0.2 µm filtered solution in PBS. See Certificate of Analysis for details.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	• 3 months from date of receipt, 2 to 8 °C as supplied.

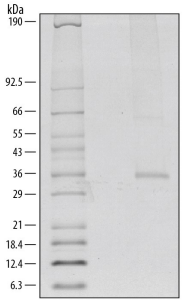
DATA

Bioactivity



Recombinant Mouse TRANCE/TNFSF11/RANK L (Catalog # 462-TR/CF) induces osteoclast differentiation of the RAW 264.7 mouse monocyte/macrophage cell line. The ED_{50} for this effect is 5-15 ng/mL in the presence of 2.5 µg/mL of a cross-linking antibody, Mouse Anti-polyHistidine Monoclonal Antibody (Catalog # MAB050)

SDS-PAGE



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 36 kDa.

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.

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