

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse RANK/TNFRSF11A in direct ELISAs and Western blots. In direct ELISAs, approximately 20% cross-reactivity with recombinant human RANK is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	<i>S. frugiperda</i> insect ovarian cell line Sf 21-derived recombinant mouse RANK/TNFRSF11A Gln30-Pro213 Accession # O35305
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
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.

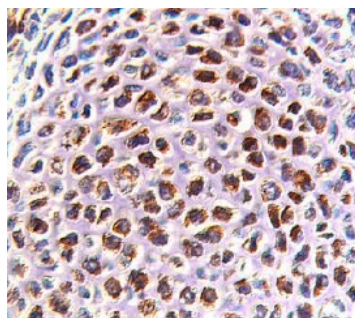
APPLICATIONS

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	0.1 µg/mL	Recombinant Mouse RANK/TNFRSF11A Fc Chimera (Catalog # 692-RK)
Immunohistochemistry	5-15 µg/mL	See Below
Agonist Activity	Mouse RANK/TNFRSF11A Antibody (Catalog # AF692) induces osteoclast differentiation of RAW 264.7 mouse monocyte/macrophage cells in the presence of recombinant mouse M-CSF (Catalog # 416ML). The ED ₅₀ for this effect is typically 0.0200 – 0.400 µg/mL.	

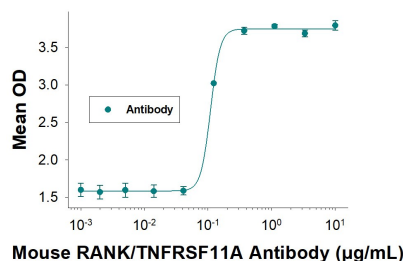
DATA

Immunohistochemistry



RANK/TNFRSF11A in Rat Embryo. RANK/TNFRSF11A was detected in immersion fixed frozen sections of rat embryo (cartilage primordium, 7 days p.c.) using 10 µg/mL Goat Anti-Mouse RANK/TNFRSF11A Antigen Affinity-purified Polyclonal Antibody (Catalog # AF692) overnight at 4 °C. Before incubation with the primary antibody tissue was subjected to heat-induced epitope retrieval using Antigen Retrieval Reagent-Basic (Catalog # CTS013). Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). View our protocol for [Chromogenic IHC Staining of Frozen Tissue Sections](#).

Agonist Activity



Mouse RANK/TNFRSF11A Antibody Agonist Activity. Mouse RANK/TNFRSF11A Antibody (Catalog # AF692) induces osteoclast differentiation of RAW 264.7 mouse monocyte/macrophage cells in the presence of recombinant mouse M-CSF (Catalog # 416ML). The ED₅₀ for this effect is typically 0.0200 – 0.400 µg/mL.

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS. For liquid material, refer to CoA for concentration.
Shipping	Lyophilized product is shipped at ambient temperature. Liquid small pack size (-SP) is shipped with polar packs. Upon receipt, store 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. 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

RANK (receptor activator of NF- κ B, also known as TRANCE receptor, osteoclast differentiation factor receptor [ODFR] and TNFRSF11A) is a member of the tumor necrosis factor receptor family. The full length mouse RANK cDNA encodes a type I transmembrane protein of 625 amino acids (aa) with a predicted 184 aa extracellular domain and a 391 aa cytoplasmic domain. The extracellular domain contains two potential N-linked glycosylation sites. RANK shares significant amino acid homology with other members of the TNF R family in its extracellular four cysteine-rich repeats. Human and murine RANK share 81% aa identity in their extracellular domains. RANK is widely expressed with the highest levels in skeletal muscle, thymus, liver, colon, small intestine and adrenal gland. RANK is expressed in dendritic cells. In activated human peripheral blood T lymphocytes, RANK expression is induced by IL-4 and TGF- β . Multiple tumor necrosis factor receptor-associated factors (TRAFs) are involved in the signaling of RANK. TRANCE (TNF-related activation-induced cytokines, also known as RANK ligand [RANKL], osteoprotegerin ligand [OPGL], and osteoclast differentiation factor [ODF]) is the ligand for RANK. The biological functions mediated through RANK include activation of NF- κ B and c-jun N-terminal kinase, enhancement of T cell growth and dendritic cell function, induction of osteoclastogenesis, and lymph node organogenesis. Soluble RANK is able to block TRANCE induced biological activity.

References:

1. Anderson, D.M. *et al.* (1997) *Nature* **390**:175.
2. Nakagawa, N. *et al.* (1998) *Biochem. Biophys. Res. Commun.* **245**:382.