Human RANK/TNFRSF11A Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF683

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human RANK in direct ELISAs and Western blots. In these formats, approximately 30% cross-reactivity with recombinant mouse RANK is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human RANK Gln29-Gly213 Accession # Q9Y6Q6
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.

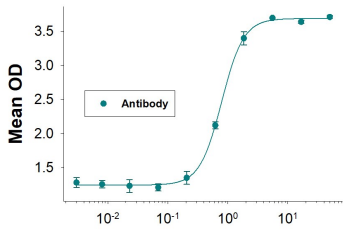
APPLICATIONS

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 Human RANK/TNFRSF11A Fc Chimera (Catalog # 683-RK)
Agonist Activity	Human RANK/TNFRSF11A Antibody (Catalog # AF683) 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 0.0750 -1.50 µg/mL.	

DATA

Agonist Activity



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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.** • 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.

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BACKGROUND

RANK (receptor activator of NF-κB, 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 human RANK cDNA encodes a type I transmembrane protein of 616 amino acids with a predicted 184 amino acid extracellular domain and a 383 amino acid 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% amino acid identity in their extracellular domains. RANK is widely expressed with 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-κB 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.

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