Revision 1

#4816 Store at -20C

RANK Ligand (L300) Antibody

Cell Signaling TECHNOLOGY®

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For Research Use Only. Not for Use in Diagnostic Procedures.

Applications:	Reactivity:	Sensitivity:	MW (kDa):	Source/Isotype:	UniProt ID:	Entrez-Gene Id:
W, IP	H	Transfected Only	35-45	Rabbit	#O14788	8600

Product Usage Information

Application	Dilution
Western Blotting	1:1000
Immunoprecipitation	1:50

Storage

Supplied in 10 mM sodium HEPES (pH 7.5), 150 mM NaCl, 100 µg/ml BSA and 50% glycerol. Store at –20°C. Do not aliquot the antibody.

Specificity/Sensitivity

RANK Ligand (L300) Antibody detects transfected levels of cellular RANK Ligand protein.

Species predicted to react based on 100% sequence homology

Rat, Monkey, Bovine, Pig

Source / Purification

Polyclonal antibodies are produced by immunizing animals with a synthetic peptide corresponding to residues near the carboxyl terminus of human RANK Ligand. Antibody was purified by protein A and peptide affinity chromatography.

Background

RANK (receptor activator of NF-κB) is a member of the tumor necrosis factor (TNF) receptor subfamily that is activated by its ligand, RANKL (TRANCE/OPGL/ODF), to promote survival of dendritic cells and differentiation of osteoclasts (1-4). Although RANK is widely expressed, its cell surface expression may be more restricted to dendritic cells and foreskin fibroblasts (1). RANK contains a 383-amino acid intracellular domain that associates with specific members of the TRAF family to NF-κB and JNK activation (1,5). RANKL/RANK signaling may also lead to survival signaling through activation of the Akt pathway and an upregulation of survival proteins, including Bcl-xL (2,6). RANK signaling has been implicated as a potential therapeutic to inhibit bone loss and arthritis (7,8).

RANKL (1), also named TNF-related activation-induced cytokine (TRANCE) (2,9), osteoprotegerin ligand (OPGL) (3), osteoclast differentiation factor (ODF) (4), and TNFSF11, is a type II transmembrane protein of the TNF family that exists as both a membrane-bound and soluble form. It is an essential regulator of immune function and bone development and homeostasis (7,10,11). RANKL is predominately expressed in activated T cells, as well as the thymus, lymph node, and bone marrow and promotes dendritic cell survival. Deletion of RANKL in mice leads to severe osteoporosis with a loss of osteoclasts, defects in T and B cell differentiation, loss of lymph node development, and mammary gland development during pregnancy (12-14).

Background References

1. Anderson, D.M. et al. (1997) *Nature* 390, 175-9.
2. Wong, B.R. et al. (1997) *J. Exp. Med.* 186, 2075-80.
3. Lacey, D.L. et al. (1998) *Cell* 93, 165-76.
4. Yasuda, H. et al. (1998) *Proc. Natl. Acad. Sci. USA* 95, 3597-602.
5. Darnay, B.G. et al. (1998) *J. Biol. Chem.* 273, 20551-5.
6. Wong, B.R. et al. (1999) *Mol. Cell* 4, 1041-9.
7. Walsh, M.C. and Choi, Y. *Cytokine Growth Factor Rev.* 14, 251-63.
8. Nakashima, T. et al. (2003) *Curr. Opin. Rheumatol.* 15, 280-7.
9. Wong, B.R. et al. (1997) *J Biol Chem* 272, 25190-4.
10. Hofbauer, L.C. (1999) *Eur J Endocrinol* 141, 195-210.
11. Theill, L.E. et al. (2002) *Annu Rev Immunol* 20, 795-823.
12. Mizuno, A. et al. (1998) *Biochem Biophys Res Commun* 247, 610-5.
13. Kong, Y.Y. et al. (1999) *Nature* 397, 315-23.
14. Fata, J.E. et al. (2000) *Cell* 103, 41-50.

Species Reactivity

Species reactivity is determined by testing in at least one approved application (e.g., western blot).

Western Blot Buffer

IMPORTANT: For western blots, incubate membrane with diluted primary antibody in 5% w/v BSA, 1X TBS, 0.1% Tween® 20 at 4°C with gentle shaking, overnight.

Applications Key

W: Western Blotting **IP:** Immunoprecipitation

Cross-Reactivity Key

H: Human

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