

RANK Ligand (L300) Antibody

100 µl
(10 western blots)

Orders ■ 877-616-CELL (2355)
orders@cellsignal.com
Support ■ 877-678-TECH (8324)
info@cellsignal.com
Web ■ www.cellsignal.com

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This product is intended for research purposes only. This product is not intended to be used for therapeutic or diagnostic purposes in humans or animals.

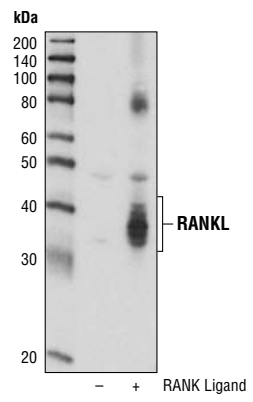
Applications	Species Cross-Reactivity*	Molecular Wt.	Source
W, IP Endogenous	H, M, (R, Mk, Pg, B)	35-45 kDa	Rabbit**

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).

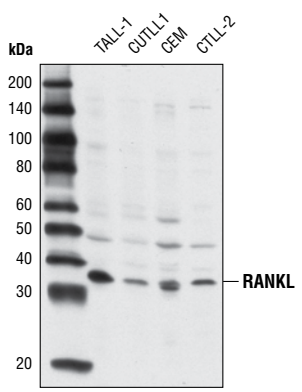
RANKL (1), also named TNF-related activation-induced cytokine (TRANCE) (2,9), osteoprotegerin ligand (OPGL) (3), osteoclast differentiation factor (ODF) (4), and TNFSF11, is a type II transmembrane protein of the TNF family that exists as both a membrane-bound and soluble form. It is an essential regulator 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).

Specificity/Sensitivity: RANK Ligand (L300) Antibody detects endogenous levels of RANK Ligand. The antibody is predicted to detect soluble RANK Ligand.

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.



Western blot analysis of extracts from COS-7 cells, untransfected (-) or transfected with a construct expressing RANK Ligand, using RANK Ligand (L300) Antibody.



Western blot analysis of extracts from various cell lines using RANK Ligand (L300) Antibody.

Entrez-Gene ID #8600
Swiss-Prot Acc. #O14788

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.

*Species cross-reactivity is determined by western blot.

**Anti-rabbit secondary antibodies must be used to detect this antibody.

Recommended Antibody Dilutions:

Western blotting	1:1000
Immunoprecipitation	1:50

For application specific protocols please see the web page for this product at www.cellsignal.com.

Please visit www.cellsignal.com for a complete listing of recommended companion products.

Background References:

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- (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.

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

Applications Key: W—Western IP—Immunoprecipitation IHC—Immunohistochemistry ChIP—Chromatin Immunoprecipitation IF—Immunofluorescence F—Flow cytometry E-P—ELISA-Peptide
Species Cross-Reactivity Key: H—human M—mouse R—rat Hm—hamster Mk—monkey Mi—mink C—chicken Dm—D. melanogaster X—Xenopus Z—zebrafish B—bovine
 Dg—dog Pg—pig Sc—S. cerevisiae Ce—C. elegans Hr—Horse All—all species expected Species enclosed in parentheses are predicted to react based on 100% homology.