

# RANK (M-20): sc-7624

## BACKGROUND

Members of the tumor necrosis factor (TNF) receptor superfamily interact with signaling molecules of the TNF receptor-associated factor (TRAF) family to activate the NF $\kappa$ B and JNK pathways. RANK (receptor activator of NF $\kappa$ B) is a member of the TNFR family identified on Dendritic cells. This type I membrane receptor is expressed in a broad range of tissues. The C-terminus of RANK is required for RANK to bind TRAF 2, 5 and 6, and it is also necessary for stimulating NF $\kappa$ B activation. The ligand for this receptor, RANKL (also designated TRANCE or ODF), is a type II transmembrane protein expressed primarily in lymphoid tissues and T cell lines. RANKL appears to be an important regulator of T cells and osteoclasts.

## REFERENCES

- Wong, B.R., et al. 1997. TRANCE is a novel ligand of the tumor necrosis factor receptor family that activates c-Jun N-terminal kinase in T cells. *J. Biol. Chem.* 272: 25190-25194.
- Natoli, G., et al. 1997. Tumor necrosis factor (TNF) receptor 1 signaling downstream of TNF receptor-associated factor 2. Nuclear factor  $\kappa$  B (NF $\kappa$ B)-inducing kinase requirement for activation of activating protein 1 and NF $\kappa$ B but not of c-Jun N-terminal kinase/stress-activated protein kinase. *J. Biol. Chem.* 272: 26079-26082.
- Shi, C.S., et al. 1997. Activation of stress-activated protein kinase/c-Jun N-terminal kinase, but not NF $\kappa$ B, by the tumor necrosis factor (TNF) receptor 1 through a TNF receptor-associated factor 2- and germinal center kinase related-dependent pathway. *J. Biol. Chem.* 272: 32102-32107.
- Anderson, D.M., et al. 1997. A homologue of the TNF receptor and its ligand enhance T cell growth and Dendritic-cell function. *Nature* 390: 175-179.

## CHROMOSOMAL LOCATION

Genetic locus: TNFRSF11A (human) mapping to 18q21.33; Tnfrsf11a (mouse) mapping to 1 E2.1.

## SOURCE

RANK (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of RANK of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-7624 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

Store at 4 $^{\circ}$  C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## APPLICATIONS

RANK (M-20) is recommended for detection of RANK of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

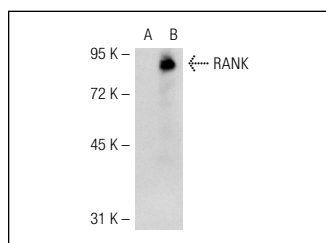
Suitable for use as control antibody for RANK siRNA (h): sc-42960, RANK siRNA (m): sc-42961, RANK shRNA Plasmid (h): sc-42960-SH, RANK shRNA Plasmid (m): sc-42961-SH, RANK shRNA (h) Lentiviral Particles: sc-42960-V and RANK shRNA (m) Lentiviral Particles: sc-42961-V.

Molecular Weight (predicted) of RANK: 66 kDa.

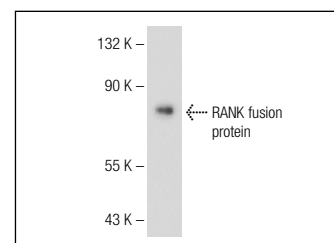
Molecular Weight (observed) of RANK: 82-90 kDa.

Positive Controls: RANK (m): 293T Lysate: sc-122962 or c4 whole cell lysate: sc-364186.

## DATA



RANK (M-20): sc-7624. Western blot analysis of RANK expression in non-transfected: sc-117752 (A) and mouse RANK transfected: sc-122962 (B) 293T whole cell lysates.



RANK (M-20): sc-7624. Western blot analysis of human recombinant RANK fusion protein.

## SELECT PRODUCT CITATIONS

- Zhang, Y., et al. 2001. Tumor necrosis factor- $\alpha$  (TNF) stimulates RANKL-induced osteoclastogenesis via coupling of TNF type 1 receptor and RANK signaling pathways. *J. Biol. Chem.* 276: 563-568.
- Jones, D.H., et al. 2006. Regulation of cancer cell migration and bone metastasis by RANKL. *Nature* 440: 692-696.
- Leung, R., et al. 2011. Sbds is required for Rac2-mediated monocyte migration and signaling downstream of RANK during osteoclastogenesis. *Blood* 117: 2044-2053.
- Zhao, D., et al. 2014. Molecular mechanism of thiazolidinedione-mediated inhibitory effects on osteoclastogenesis. *PLoS ONE* 9: e102706.



Try **RANK (H-7): sc-374360** or **RANK (B-8): sc-390655**, our highly recommended monoclonal alternatives to RANK (M-20). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **RANK (H-7): sc-374360**.