SANTA CRUZ BIOTECHNOLOGY, INC.

RANK (H-300): sc-9072

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 NFκB and JNK pathways. RANK (receptor activator of NFκB) 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 NFκB 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

1. 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.
2. Shi, C.S., et al. 1997. Activation of stress-activated protein kinase/c-Jun N-terminal kinase, but not NFκB, 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.

CHROMOSOMAL LOCATION

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

SOURCE

RANK (H-300) is a rabbit polyclonal antibody raised against amino acids 317-616 of RANK of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

RANK (H-300) is recommended for detection of RANK of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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.

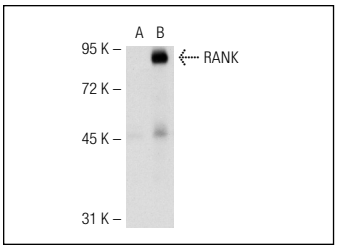
Molecular Weight (observed) of RANK: 82-90 kDa.

Positive Controls: SJRH30 cell lysate: sc-2287, Hep G2 cell lysate: sc-2227 or RANK (m): 293T Lysate: sc-122962.

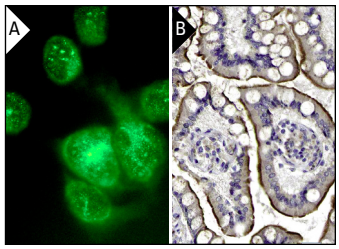
STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



RANK (H-300): sc-9072. Western blot analysis of RANK expression in non-transfected: sc-117752 (**A**) and mouse RANK transfected: sc-122962 (**B**) 293T whole cell lysates.



RANK (H-300): sc-9072. Immunofluorescence staining of methanol-fixed SJRH30 cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing membrane and cytoplasmic staining of glandular cells. Kindly provided by The Swedish Human Protein Atlas (HPA) program (**B**).

SELECT PRODUCT CITATIONS

1. de Hooge, A.S., et al. 2002. Adenoviral transfer of murine oncostatin M elicits periosteal bone apposition in knee joints of mice, despite synovial inflammation and upregulated expression of interleukin-6 and receptor activator of NFκB ligand. Am. J. Pathol. 160: 1733-1743.
2. Bahtiar, A., et al. 2009. Identification of a novel L-serine analog that suppresses osteoclastogenesis *in vitro* and bone turnover *in vivo*. J. Biol. Chem. 284: 34157-34166.
3. Kasahara, T., et al. 2010. Malfunction of bone marrow-derived osteoclasts and the delay of bone fracture healing in diabetic mice. Bone 47: 617-625.
4. Elias, L.S., et al. 2010. Markers of bone remodeling in neoplastic and bone-related lesions. Oral Surg. Oral Med. Oral Pathol. Oral Radiol. Endod. 110: 624-631.
5. Hie, M., et al. 2011. Zinc deficiency decreases osteoblasts and osteoclasts associated with the reduced expression of Runx2 and RANK. Bone 49: 1152-1159.
6. Li, C., et al. 2011. Maslinic acid suppresses osteoclastogenesis and prevents ovariectomy-induced bone loss by regulating RANKL-mediated NFκB and MAPK signaling pathways. J. Bone Miner. Res. 26: 644-656.

RESEARCH USE

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