



RANK (9A725): sc-52951

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 κ B and JNK pathways. RANK (receptor activator of NF κ 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 κ 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

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. Natoli, G., et al. 1997. Tumor necrosis factor (TNF) receptor 1 signaling downstream of TNF receptor-associated factor 2. Nuclear factor κ B (NF κ B)-inducing kinase requirement for activation of activating protein 1 and NF κ B but not of c-Jun N-terminal kinase/stress-activated protein kinase. *J. Biol. Chem.* 272: 26079-26082.
3. 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.

SOURCE

RANK (9A725) is a mouse monoclonal antibody raised against amino acids 326-616 of RANK of human origin.

PRODUCT

Each vial contains 100 μ g IgG γ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.1% stabilizer protein.

APPLICATIONS

RANK (9A725) is recommended for detection of RANK of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 flow cytometry (1 μ g per 1 x 10⁶ cells).

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

Molecular Weight (predicted) of RANK: 66 kDa.

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

Positive Controls: SJRH30 cell lysate: sc-2287 or Hep G2 cell lysate: sc-2227.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 3) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

SELECT PRODUCT CITATIONS

1. Xing, Y., et al. 2007. Bioconjugated quantum dots for multiplexed and quantitative immunohistochemistry. *Nat. Protoc.* 2: 1152-1165.
2. Tavassoli, A., et al. 2008. Inhibition of HIV budding by a genetically selected cyclic peptide targeting the Gag-TSG101 interaction. *ACS Chem. Biol.* 3: 757-764.
3. Zhang, L., et al. 2012. Receptor activator for nuclear factor κ B expression predicts poor prognosis in breast cancer patients with bone metastasis but not in patients with visceral metastasis. *J. Clin. Pathol.* 65: 36-40.
4. Zhang, L., et al. 2015. The E3 ubiquitin ligase Cbl-b improves the prognosis of RANK positive breast cancer patients by inhibiting RANKL-induced cell migration and metastasis. *Oncotarget* 6: 22918-22933.
5. Baharuddin, N.A., et al. 2015. Localization of RANK, RANKL and osteoprotegerin during healing of surgically created periodontal defects in sheep. *J. Periodontal Res.* 50: 211-219.
6. Canullo, L., et al. 2015. Alveolar socket preservation technique: effect of biomaterial on bone regenerative pattern. *Ann. Anat.* 206: 73-79.
7. Takahama, A., et al. 2018. Association between bacteria occurring in the apical canal system and expression of bone-resorbing mediators and matrix metalloproteinases in apical periodontitis. *Int. Endod. J.* 51: 738-746.

STORAGE

Store at 4° 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.



See **RANK (H-7): sc-374360** for RANK antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.