

# RANK (H-7): sc-374360

## 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 TRAF2, 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.

## CHROMOSOMAL LOCATION

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

## SOURCE

RANK (H-7) is a mouse monoclonal antibody raised against amino acids 317-616 of RANK of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RANK (H-7) is available conjugated to agarose (sc-374360 AC), 500  $\mu$ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-374360 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-374360 PE), fluorescein (sc-374360 FITC), Alexa Fluor<sup>®</sup> 488 (sc-374360 AF488), Alexa Fluor<sup>®</sup> 546 (sc-374360 AF546), Alexa Fluor<sup>®</sup> 594 (sc-374360 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-374360 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-374360 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-374360 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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## APPLICATIONS

RANK (H-7) is recommended for detection of RANK of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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.

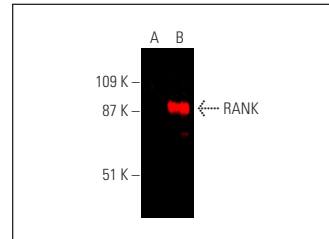
Molecular Weight (observed) of RANK: 82-90 kDa.

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

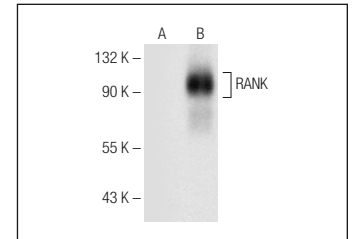
## STORAGE

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

## DATA



RANK (H-7): sc-374360. Near-infrared western blot analysis of RANK expression in non-transfected: sc-117752 (A) and mouse RANK transfected: sc-122962 (B) 293T whole cell lysates. Blocked with UltraCruz<sup>®</sup> Blocking Reagent: sc-516214. Detection reagent used: m-IgGk BP-CFL 790: sc-516181.



RANK (H-7): sc-374360. Western blot analysis of RANK expression in non-transfected: sc-117752 (A) and mouse RANK transfected: sc-122962 (B) 293T whole cell lysates.

## SELECT PRODUCT CITATIONS

- Jablonski, H., et al. 2015. Calcitonin gene-related peptide modulates the production of pro-inflammatory cytokines associated with periprosthetic osteolysis by THP-1 macrophage-like cells. *Neuroimmunomodulation* 22: 152-165.
- Kim, H.S., et al. 2017. DJ-1 controls bone homeostasis through the regulation of osteoclast differentiation. *Nat. Commun.* 8: 1519.
- Sambandam, Y., et al. 2018. Autoregulation of RANK ligand in oral squamous cell carcinoma tumor cells. *J. Cell. Physiol.* 233: 6125-6134.
- Nam, S.Y., et al. 2019. An osteoclastogenesis system, the RANKL/RANK signaling pathway contributes to aggravated allergic inflammation. *Br. J. Pharmacol.* 176: 1664-1679.
- Xiang, L.X., et al. 2020. CR6-interacting factor-1 contributes to osteoclastogenesis by inducing receptor activator of nuclear factor  $\kappa$ B ligand after radiation. *World J. Stem Cells* 12: 222-240.
- AlQranei, M.S., et al. 2021. Lipopolysaccharide- TLR-4 axis regulates osteoclastogenesis independent of RANKL/RANK signaling. *BMC Immunol.* 22: 23.
- Jin, M., et al. 2021. Feedback activation of NF $\kappa$ B signaling leads to adaptive resistance to EZH2 inhibitors in prostate cancer cells. *Cancer Cell Int.* 21: 191.
- Karim, K., et al. 2021. *Marantodes pumilum* Var Alata (Kacip Fatimah) ameliorates derangement in RANK/RANKL/OPG pathway and reduces inflammation and oxidative stress in the bone of estrogen-deficient female rats with type-2 diabetes. *Phytomedicine* 91: 153677.

## RESEARCH USE

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