

RANKL (G-1): sc-377079

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 TRAF2, 5 and 6, and it is also necessary for stimulating NF κ B activation. The ligand for this receptor, RANKL (also designated TRANCE, OPG 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 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.
- Shi, C.S., et al. 1997. Activation of stress-activated protein kinase/c-Jun N-terminal kinase, but not NF κ 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.

CHROMOSOMAL LOCATION

Genetic locus: TNFSF11 (human) mapping to 13q14.11; Tnfsf11 (mouse) mapping to 14 D3.

SOURCE

RANKL (G-1) is a mouse monoclonal antibody raised against amino acids 46-317 representing full length RANKL of human origin.

PRODUCT

Each vial contains 200 μ g IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RANKL (G-1) is available conjugated to agarose (sc-377079 AC), 500 μ g/0.25 ml agarose in 1 ml, for IP; to HRP (sc-377079 HRP), 200 μ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-377079 PE), fluorescein (sc-377079 FITC), Alexa Fluor[®] 488 (sc-377079 AF488), Alexa Fluor[®] 546 (sc-377079 AF546), Alexa Fluor[®] 594 (sc-377079 AF594) or Alexa Fluor[®] 647 (sc-377079 AF647), 200 μ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-377079 AF680) or Alexa Fluor[®] 790 (sc-377079 AF790), 200 μ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

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RESEARCH USE

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

APPLICATIONS

RANKL (G-1) is recommended for detection of RANKL of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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 RANKL siRNA (h): sc-29464, RANKL siRNA (m): sc-37270, RANKL shRNA Plasmid (h): sc-29464-SH, RANKL shRNA Plasmid (m): sc-37270-SH, RANKL shRNA (h) Lentiviral Particles: sc-29464-V and RANKL shRNA (m) Lentiviral Particles: sc-37270-V.

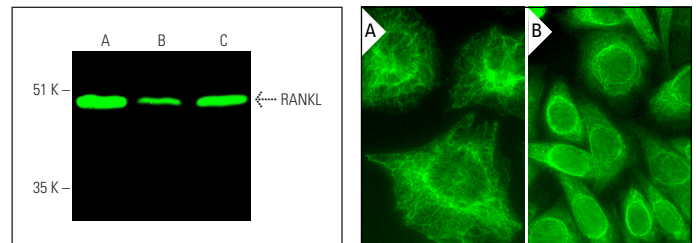
Molecular Weight of RANKL full length: 35-40 kDa.

Molecular Weight of membrane bound RANKL: 35-40 kDa.

Molecular Weight of soluble RANKL: 20-30 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, HUV-EC-C whole cell lysate: sc-364180 or LNCaP cell lysate: sc-2231.

DATA



RANKL (G-1): sc-377079. Near-infrared western blot analysis of RANKL expression in HeLa (A), HUV-EC-C (B) and LNCaP (C) whole cell lysates. Blocked with UltraCruz[®] Blocking Reagent: sc-516214. Detection reagent used: m-IgG κ BP-CFL 680: sc-516180.

RANKL (G-1): sc-377079. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane and cytoplasmic localization (A). RANKL (G-1) Alexa Fluor[®] 488: sc-377079 AF488. Direct immunofluorescence staining of formalin-fixed SW480 cells showing membrane and cytoplasmic localization. Blocked with UltraCruz[®] Blocking Reagent: sc-516214 (B).

SELECT PRODUCT CITATIONS

- Wang, X.F., et al. 2013. The role of the serum RANKL/OPG ratio in the healing of intertrochanteric fractures in elderly patients. *Mol. Med. Rep.* 7: 1169-1172.
- Sambandam, Y., et al. 2018. Autoregulation of RANK ligand in oral squamous cell carcinoma tumor cells. *J. Cell. Physiol.* 233: 6125-6134.
- Voronkina, I.V., et al. 2019. Expression of osteoprotegerin and soluble ligand of receptor of κ B transcription factor activator in the calcification of aortic valve. *Biomed. Khim.* 65: 57-62.
- Russo, C., et al. 2020. Lycopene and bone: an *in vitro* investigation and a pilot prospective clinical study. *J. Transl. Med.* 18: 43.

STORAGE

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