

# RFLAT-1 (IP-2): sc-130454

## BACKGROUND

RANTES factor of late activated T lymphocytes-1 (RFLAT-1), also designated BTEB3 and Krüppel-like factor 13 (KLF13), is a novel transcription factor that is expressed in T cells in the late stages of activation. This delayed induction coincides with the expression of RANTES, a chemoattractant cytokine for monocytes, T lymphocytes, eosinophils, basophils and natural killer cells. RFLAT-1 is localized to the nucleus, where it associates with the a site of the RANTES promoter and, in turn, facilitates transcriptional activation. RFLAT-1 is related to the transcription factor TFIIA-like zinc finger protein superfamily, as it contains three distinct and contiguous zinc finger motifs at the carboxy-terminus and a proline-rich transcriptional activation domain, which are also present in TFIIA family of proteins, including Sp1 and Sp3. Although RFLAT-1 activates gene-specific transcription in activated T cells, it is also ubiquitously expressed in various cell types where it is likely regulated by phosphorylation. Late stage transcriptional activation of RANTES in activated T cells is also strongly influenced by Rel proteins of the NF $\kappa$ B family, suggesting that RFLAT-1 and Rel may synergistically activate the RANTES promoter.

## REFERENCES

1. Nelson, P.J., et al. 1996. Identification of a novel regulatory region critical for expression of the RANTES chemokine in activated T lymphocytes. *J. Immunol.* 157: 1139-1148.
2. Ortiz, B.D., et al. 1996. Kinetics of transcription factors regulating the RANTES chemokine gene reveal a developmental switch in nuclear events during T lymphocyte maturation. *Mol. Cell. Biol.* 16: 202-210.
3. Ortiz, B.D., et al. 1997. Switching gears during T cell maturation: RANTES and late transcription. *Immunol. Today* 18: 468-471.
4. Wong, M., et al. 1998. RANTES and MIP-1 $\alpha$  activate stats in T cells. *J. Biol. Chem.* 273: 309-314.
5. Conconi, A., et al. 1999. Tight correlation between inhibition of DNA repair *in vitro* and transcription factor IIIA binding in a 5S ribosomal RNA gene. *EMBO J.* 18: 1387-1396.
6. Song, A., et al. 1999. RFLAT-1: a new zinc finger transcription factor that activates RANTES gene expression in T lymphocytes. *Immunity* 10: 93-103.
7. Lin, R., et al. 1999. Essential role of interferon regulatory factor 3 in direct activation of RANTES chemokine transcription. *Mol. Cell. Biol.* 19: 959-966.
8. Kuo, C.T., et al. 1999. Transcriptional regulation of T lymphocyte development and function. *Annu. Rev. Immunol.* 17:149-187.

## CHROMOSOMAL LOCATION

Genetic locus: KLF13 (human) mapping to 15q13.3; Klf13 (mouse) mapping to 7 C.

## SOURCE

RFLAT-1 (IP-2) is a mouse monoclonal antibody raised against recombinant RFLAT-1 of human origin.

## RESEARCH USE

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

## PRODUCT

Each vial contains 100  $\mu$ g IgG<sub>2a</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

RFLAT-1 (IP-2) is recommended for detection of RFLAT-1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) and immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)].

Suitable for use as control antibody for RFLAT-1 siRNA (h): sc-38234, RFLAT-1 siRNA (m): sc-38235, RFLAT-1 shRNA Plasmid (h): sc-38234-SH, RFLAT-1 shRNA Plasmid (m): sc-38235-SH, RFLAT-1 shRNA (h) Lentiviral Particles: sc-38234-V and RFLAT-1 shRNA (m) Lentiviral Particles: sc-38235-V.

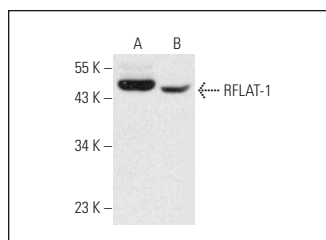
Molecular Weight of RFLAT-1: 38 kDa.

Positive Controls: K-562 whole cell lysate: sc-2203, KNRK whole cell lysate: sc-2214 or LADMAC whole cell lysate.

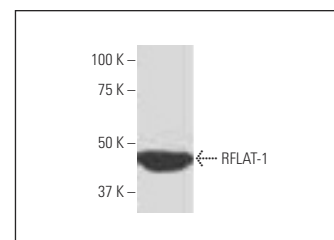
## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

## DATA



RFLAT-1 (IP-2): sc-130454. Western blot analysis of RFLAT-1 expression in KNRK (A) and LADMAC (B) whole cell lysates.



RFLAT-1 (IP-2): sc-130454. Western blot analysis of RFLAT-1 expression in K-562 whole cell lysate.

## SELECT PRODUCT CITATIONS

1. Hu, Y., et al. 2019. The antibiotic clofexol suppresses glioma stem cell proliferation by activating KLF13. *J. Clin. Invest.* 129: 3072-3085.
2. Qiu, J., et al. 2021. Ghrelin attenuates transforming growth factor- $\beta$ 1-induced pulmonary fibrosis via the miR-125a-5p/Krüppel-like factor 13 axis. *Arch. Biochem. Biophys.* 715: 109082.

## STORAGE

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