

# RFLAT-1 siRNA (m): sc-38235

## 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 NFκB family, suggesting that RFLAT-1 and Rel may synergistically activate the RANTES promoter.

## REFERENCES

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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. and Fish, E.N. 1998. RANTES and MIP-1 α activate Stats in T cells. *J. Biol. Chem.* 273: 309-314.
5. 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.
6. 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.
7. 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.
8. Kuo, C.T. and Leiden, J.M. 1999. Transcriptional regulation of T lymphocyte development and function. *Annu. Rev. Immunol.* 17:149-187.

## CHROMOSOMAL LOCATION

Genetic locus: Klf13 (mouse) mapping to 7 C.

## PRODUCT

RFLAT-1 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 μM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see RFLAT-1 shRNA Plasmid (m): sc-38235-SH and RFLAT-1 shRNA (m) Lentiviral Particles: sc-38235-V as alternate gene silencing products.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNases and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 μl of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μl of RNase-free water makes a 10 μM solution in a 10 μM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

RFLAT-1 siRNA (m) is recommended for the inhibition of RFLAT-1 expression in mouse cells.

## SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 μM in 66 μl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

## GENE EXPRESSION MONITORING

RFLAT-1 (IP-2): sc-130454 is recommended as a control antibody for monitoring of RFLAT-1 gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor RFLAT-1 gene expression knockdown using RT-PCR Primer: RFLAT-1 (m)-PR: sc-38235-PR (20 μl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.