

# MALT1 siRNA (m): sc-35846

## BACKGROUND

Mucosa associated lymphoid tissue lymphoma translocation gene 1 (MALT1) is found in extranodal low-grade B cell lymphomas. MALT1 encodes two Ig-like C2-type domains and fuses with an API2 gene, which is highly expressed in adult lymphoid tissue. The translocation of this MALT1 gene, which maps to human chromosome 18q21.32, and the apoptosis-inhibiting API2 gene results in an increased development of MALT lymphomas and apoptosis inhibition. Sites at which this API2-MALT1 (11;18)(q21;q21) translocation commonly occurs are within human lung and kidney tissue. MALT lymphoma expresses nuclear Bcl10, which mediates the oligomerization and activation of a MALT1 caspase-like domain. The MALT1-API2 fusion protein activates NF $\kappa$ B and creates a signaling pathway, which is influenced by this Bcl10-MALT1 complex. MALT1 mRNA is found in pre-B cells, mature B cells and plasma cells.

## REFERENCES

1. Akagi, T., et al. 1999. A novel gene, MALT1 at 18q21, is involved in t(11;18)(q21;q21) found in low-grade B cell lymphoma of mucosa associated lymphoid tissue. *Oncogene* 18: 5785-5794.
2. Dierlamm, J., et al. 1999. The apoptosis inhibitor gene API2 and a novel 18q gene, MLT, are recurrently rearranged in the t(11;18)(q21;q21) associated with mucosa associated lymphoid tissue lymphomas. *Blood* 93: 3601-3609.
3. Uren, A.G., et al. 2000. Identification of paracaspases and metacaspases: two ancient families of caspase-like proteins, one of which plays a key role in MALT lymphoma. *Mol. Cell* 6: 961-967.

## CHROMOSOMAL LOCATION

Genetic locus: Malt1 (mouse) mapping to 18 E1.

## PRODUCT

MALT1 siRNA (m) is a pool of 3 target-specific 19-25 nt siRNAs designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MALT1 shRNA Plasmid (m): sc-35846-SH and MALT1 shRNA (m) Lentiviral Particles: sc-35846-V as alternate gene silencing products.

For independent verification of MALT1 (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-35846A, sc-35846B and sc-35846C.

## 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  $\mu$ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330  $\mu$ l of RNase-free water makes a 10  $\mu$ M solution in a 10  $\mu$ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

## APPLICATIONS

MALT1 siRNA (m) is recommended for the inhibition of MALT1 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  $\mu$ M in 66  $\mu$ l. 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

MALT1 (D-1): sc-515389 is recommended as a control antibody for monitoring of MALT1 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-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) Immunofluorescence: use m-IgG $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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 MALT1 gene expression knockdown using RT-PCR Primer: MALT1 (m)-PR: sc-35846-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

## SELECT PRODUCT CITATIONS

1. Li, Y., et al. 2017. Central role of myeloid MCP1 in protecting against LPS-induced inflammation and lung injury. *Signal Transduct. Target. Ther.* 2: 17066.
2. Andoh, T., et al. 2021. Berberine induces anti-atopic dermatitis effects through the downregulation of cutaneous EIF3F and MALT1 in NC/Nga mice with atopy-like dermatitis. *Biochem. Pharmacol.* 185: 114439.

## 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.