

# LAPTM5 siRNA (h): sc-88756

## BACKGROUND

Lysosomal-associated transmembrane protein 5 (LAPTM5) is a 262 amino acid protein belonging to the LAPTM4/LAPTM5 transporter family. The LAPTM5 protein is highly expressed in immune cells and contains three PY motifs (L/PPXY) and a ubiquitin-interacting motif, both of which facilitate the interaction of LAPTM5 with other proteins. LAPTM5 modulates surface T cell antigen receptor (TCR) expression and activation by specifically binding to CD3 $\zeta$  and promoting its degradation without affecting other CD3 proteins. The gene encoding LAPTM5 resides within the chromosomal band 1p34-36, a commonly rearranged locus in several types of cancers. Subsequently, loss of LAPTM5 expression may play an important role in the progression of human multiple myeloma (MM).

## REFERENCES

1. Scott, L.M., et al. 1996. E3, a hematopoietic-specific transcript directly regulated by the retinoic acid receptor  $\alpha$ . *Blood* 88: 2517-2530.
2. Adra, C.N., et al. 1996. LAPTM5: a novel lysosomal-associated multispanning membrane protein preferentially expressed in hematopoietic cells. *Genomics* 35: 328-337.
3. Seimiya, M., et al. 2003. Stage-specific expression of Clast6/E3/LAPTM5 during B cell differentiation: elevated expression in human B lymphomas. *Int. J. Oncol.* 22: 301-304.
4. Hayami, Y., et al. 2003. Inactivation of the E3/LAPTM5 gene by chromosomal rearrangement and DNA methylation in human multiple myeloma. *Leukemia* 17: 1650-1657.
5. Pak, Y., et al. 2006. Transport of LAPTM5 to lysosomes requires association with the ubiquitin ligase NEDD4, but not LAPTM5 ubiquitination. *J. Cell Biol.* 175: 631-645.

## CHROMOSOMAL LOCATION

Genetic locus: LAPTM5 (human) mapping to 1p35.2.

## PRODUCT

LAPTM5 siRNA (h) 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 LAPTM5 shRNA Plasmid (h): sc-88756-SH and LAPTM5 shRNA (h) Lentiviral Particles: sc-88756-V as alternate gene silencing products.

For independent verification of LAPTM5 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-88756A, sc-88756B and sc-88756C.

## 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.

## 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

LAPTM5 siRNA (h) is recommended for the inhibition of LAPTM5 expression in human 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor LAPTM5 gene expression knockdown using RT-PCR Primer: LAPTM5 (h)-PR: sc-88756-PR (20  $\mu$ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.