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# UBL7 siRNA (m): sc-154867

## BACKGROUND

Ubiquitin is a 77 amino acid protein that targets proteins for degradation by the 26S proteasome. Ubiquitin-like (UBL) proteins are not directly involved in protein degradation, but appear to have many mechanistic similarities with the ubiquitin pathway. UBL7 (Ubiquitin-like protein 57, also known as BMSCUBP (Bone marrow stromal cell ubiquitin-like protein) and Ubiquitin-like protein SB132, is a 380 amino acid protein that contains a ubiquitin-like domain and a UBA domain, through which it binds ubiquitin. Expression of UBL7 is significantly downregulated in phorbol myristate acetate-stimulated bone marrow stromal cell (BMSC), but is not changed in LPS-stimulated BMSC, suggesting that UBL7 may play a role in BMSC function or cell differentiation through an evocator- and cell-specific pattern. Though UBL7 is ubiquitously expressed, highest levels are found in testis, heart, thyroid, adrenal gland and skeletal muscle.

## REFERENCES

1. Liu, S., Yu, Y., An, H., Li, N., Lin, N., Wang, W., Zhang, W., Wan, T. and Cao, X. 2003. Cloning and identification of a novel ubiquitin-like protein, BMSC-UbP, from human bone marrow stromal cells. *Immunol. Lett.* 86: 169-175.
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3. Chang, Y.G., Song, A.X., Gao, Y.G., Shi, Y.H., Lin, X.J., Cao, X.T., Lin, D.H. and Hu, H.Y. 2006. Solution structure of the ubiquitin-associated domain of human BMSC-UbP and its complex with ubiquitin. *Protein Sci.* 15: 1248-1259.
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5. Edelmann, M.J. and Kessler, B.M. 2008. Ubiquitin and ubiquitin-like specific proteases targeted by infectious pathogens: emerging patterns and molecular principles. *Biochim. Biophys. Acta* 1782: 809-816.
6. Su, V. and Lau, A.F. 2009. Ubiquitin-like and ubiquitin-associated domain proteins: significance in proteasomal degradation. *Cell. Mol. Life Sci.* 66: 2819-2833.

## CHROMOSOMAL LOCATION

Genetic locus: Ubl7 (mouse) mapping to 9 B.

## PRODUCT

UBL7 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 UBL7 shRNA Plasmid (m): sc-154867-SH and UBL7 shRNA (m) Lentiviral Particles: sc-154867-V as alternate gene silencing products.

For independent verification of UBL7 (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-154867A, sc-154867B and sc-154867C.

## 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

UBL7 siRNA (m) is recommended for the inhibition of UBL7 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.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor UBL7 gene expression knockdown using RT-PCR Primer: UBL7 (m)-PR: sc-154867-PR (20  $\mu$ l). 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.