SANTA CRUZ BIOTECHNOLOGY, INC.

MYLIP siRNA (m): sc-149753

BACKGROUND

MYLIP (myosin regulatory light chain interacting protein), also known as E3 ubiquitin-protein ligase MYLIP, MIR, BZF1 or IDOL (inducible degrader of the LDL-receptor), is a 445 amino acid cytoplasmic E3 protein that functions as a ubiquitin-protein ligase. MYLIP is involved in the mediation of ApoER2 (apolipoprotein E receptor 2), VLDLR (very low density lipoprotein receptor) and LDLR (low density lipoprotein receptor), ubiquitination and proteasomal degradation. While ubiquitously expressed, MYLIP is found at highest levels in placenta and fetal lung and exists as two alternatively spliced isoforms. MYLIP contains one FERM domain, one ring domain, and undergoes post-translational autoubiquitination. The gene encoding MYLIP maps to human chromosome 6, which contains 170 million base pairs and comprises nearly 6% of the human genome.

REFERENCES

1. Olsson, P.A., et al. 1999. MIR is a novel ERM-like protein that interacts with myosin regulatory light chain and inhibits neurite outgrowth. J. Biol. Chem. 274: 36288-36292.
2. Olsson, P.A., et al. 2000. Neuronal expression of the ERM-like protein MIR in rat brain and its localization to human chromosome 6. Biochem. Biophys. Res. Commun. 279: 879-883.
3. Zhang, Q.H., et al. 2000. Cloning and functional analysis of cDNAs with open reading frames for 300 previously undefined genes expressed in CD34+ hematopoietic stem/progenitor cells. Genome Res. 10: 1546-1560.
4. Bornhauser, B.C., et al. 2003. Functional activities and cellular localization of the ezrin, radixin, moesin (ERM) and RING zinc finger domains in MIR. FEBS Lett. 553: 195-199.
5. Bornhauser, B.C., et al. 2003. MSAP is a novel MIR-interacting protein that enhances neurite outgrowth and increases myosin regulatory light chain. J. Biol. Chem. 278: 35412-35420.
6. Zelcer, N., et al. 2009. LXR regulates cholesterol uptake through Idol-dependent ubiquitination of the LDL receptor. Science 325: 100-104.
7. Hong, C., et al. 2010. The E3 ubiquitin ligase IDOL induces the degradation of the low density lipoprotein receptor family members VLDLR and ApoER2. J. Biol. Chem. 285: 19720-19726.

CHROMOSOMAL LOCATION

Genetic locus: Mylip (mouse) mapping to 13 A5.

PRODUCT

MYLIP siRNA (m) is a pool of 2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MYLIP shRNA Plasmid (m): sc-149753-SH and MYLIP shRNA (m) Lentiviral Particles: sc-149753-V as alternate gene silencing products.

For independent verification of MYLIP (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-149753A and sc-149753B.

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

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

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor MYLIP gene expression knockdown using RT-PCR Primer: MYLIP (m)-PR: sc-149753-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 or our catalog for detailed protocols and support products.