



MAP LC3 γ siRNA (h): sc-88776

BACKGROUND

Microtubule-associated proteins (MAPs) regulate microtubule stability and play critical roles in neuronal development and in maintaining the balance between neuronal plasticity and rigidity. MAP LC3 γ (microtubule-associated protein 1 light chain 3 γ), also known as autophagy-related protein LC3 C, ATG8J or MAP1LC3C, is a 147 amino acid ortholog of yeast Atg8, a protein involved in autophagy. Abundantly expressed in ovary, placenta and lung, MAP LC3 γ localizes to cytoplasm, endomembrane and cytoplasmic vesicles where it functions as a lipid anchor. MAP LC3 γ is a member of the MAP LC3 family and is thought to play a role in autophagosome formation. MAP LC3 γ interacts with both MAP-1A and MAP-1B, and is encoded by a gene that maps to human chromosome 1q43. Human chromosome 1 houses a large number of disease-associated genes, including those that are involved in familial adenomatous polyposis, Stickler syndrome, Parkinson's disease and Gaucher disease.

REFERENCES

1. Lau, E.K., et al. 1999. Two novel polymorphic sequences in the glucocerebrosidase gene region enhance mutational screening and founder effect studies of patients with Gaucher disease. *Hum. Genet.* 104: 293-300.
2. He, H., et al. 2003. Post-translational modifications of three members of the human MAP1LC3 family and detection of a novel type of modification for MAP1LC3B. *J. Biol. Chem.* 278: 29278-29287.
3. Plasilova, M., et al. 2004. Exclusion of an extracolonic disease modifier locus on chromosome 1p33-36 in a large Swiss familial adenomatous polyposis kindred. *Eur. J. Hum. Genet.* 12: 365-371.
4. Tanida, I., et al. 2004. HsAtg4B/HsApg4B/autophagin-1 cleaves the carboxyl termini of three human Atg8 homologues and delipidates microtubule-associated protein light chain 3- and GABA_A receptor-associated protein-phospholipid conjugates. *J. Biol. Chem.* 279: 36268-36276.
5. Betarbet, R., et al. 2008. Fas-associated factor 1 and Parkinson's disease. *Neurobiol. Dis.* 31: 309-315.

CHROMOSOMAL LOCATION

Genetic locus: MAP1LC3C (human) mapping to 1q43.

PRODUCT

MAP LC3 γ 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see MAP LC3 γ shRNA Plasmid (h): sc-88776-SH and MAP LC3 γ shRNA (h) Lentiviral Particles: sc-88776-V as alternate gene silencing products.

For independent verification of MAP LC3 γ (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-88776A, sc-88776B and sc-88776C.

RESEARCH USE

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

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

APPLICATIONS

MAP LC3 γ siRNA (h) is recommended for the inhibition of MAP LC3 γ 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 μ M in 66 μ 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 MAP LC3 γ gene expression knockdown using RT-PCR Primer: MAP LC3 γ (h)-PR: sc-88776-PR (20 μ l, 523 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.