SANTA CRUZ BIOTECHNOLOGY, INC.

GABARAPL1 siRNA (m): sc-145303

BACKGROUND

GABARAPL1 (γ-aminobutyric acid receptor-associated protein-like 1), also known as ATG8, GEC1 (glandular epithelial cell protein 1), APG8L, ATG8L or APG8-LIKE, is a 117 amino acid protein belonging to the MAP1 LC3 family. Localized to the endoplasmic reticulum and Golgi apparatus, GABARAPL1 is ubiquitously expressed. Very high levels of GABARAPL1 are found in brain, heart, peripheral blood leukocytes, liver, kidney, placenta and skeletal muscle. GABARAPL1 increases cell-surface expression of κ-type opioid receptor (KOR) through facilitating anterograde intracellular trafficking of the receptor. GABARAPL1 may have chaperone-like effects for many cell surface proteins along the biosynthesis pathway and may regulate the trafficking of receptor GABA. GABARAPL1 interacts with $GABA_A$ Rγ2, β Tubulin and KOR-1.

REFERENCES

1. Nemos, C., et al. 2003. Expression of gec1/GABARAPL1 versus GABARAP mRNAs in human: predominance of gec1/GABARAPL1 in the central nervous system. Brain Res. Mol. Brain Res. 119: 216-219.
2. Vernier-Magnin, S., et al. 2005. Analysis of the guinea-pig estrogen-regulated gec1/GABARAPL1 gene promoter and identification of a functional ERE in the first exon. Biochim. Biophys. Acta 1731: 23-31.
3. Mansuy-Schlick, V., et al. 2006. Specific distribution of gabarap, gec1/gabarap Like 1, gate16/gabarap Like 2, lc3 messenger RNAs in rat brain areas by quantitative real-time PCR. Brain Res. 1073-1074: 83-87.
4. Chen, C., et al. 2006. GEC1 interacts with the κ opioid receptor and enhances expression of the receptor. J. Biol. Chem. 281: 7983-7993.
5. Wang, Y., et al. 2006. Distribution and ultrastructural localization of GEC1 in the rat CNS. Neuroscience 140: 1265-1276.
6. Tolle, F., et al. 2008. Specific regional distribution of gec1 mRNAs in adult rat central nervous system. Brain Res. 1210: 103-115.
7. Nakamura, T., et al. 2008. PX-RICS mediates ER-to-Golgi transport of the N-cadherin/β-catenin complex. Genes Dev. 22: 1244-1256.

CHROMOSOMAL LOCATION

Genetic locus: Gabarapl1 (mouse) mapping to 6 F3.

PRODUCT

GABARAPL1 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GABARAPL1 shRNA Plasmid (m): sc-145303-SH and GABARAPL1 shRNA (m) Lentiviral Particles: sc-145303-V as alternate gene silencing products.

For independent verification of GABARAPL1 (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-145303A, sc-145303B and sc-145303C.

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 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

GABARAPL1 siRNA (m) is recommended for the inhibition of GABARAPL1 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 GABARAPL1 gene expression knockdown using RT-PCR Primer: GABARAPL1 (m)-PR: sc-145303-PR (20 µl). 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.