SANTA CRUZ BIOTECHNOLOGY, INC.

E-Syt3 siRNA (m): sc-142862

BACKGROUND

Synaptotagmins are a large gene family that function as regulators of both exocytosis and endocytosis and are involved in neurotransmitter secretion from small secretory vesicles. E-Syt1, E-Syt2 and E-Syt3 are Ca^{2+}-regulated intrinsic membrane proteins that belong to the extended synaptotagmins (E-Syts) family. Primary structures and biochemical properties of the E-Syts family are highly conserved from yeast to human and consist of multiple C2 domains, which mediate lipid and calcium binding. Ubiquitously expressed with highest expression in brain, members of the E-Syts family form heteromeric complexes and are thought to play a role in the formation of junctions between endoplasmic reticulum and plasma membrane. E-Syt3 (extended synaptotagmin-like protein 3), also known as FAM62C or CHR3SYT, is a 886 amino acid protein that exists as two alternatively spliced isoforms. The gene encoding E-Syt3 is located on human chromosome 3q22.3.

REFERENCES

1. Müller, S., et al. 2000. Molecular cytogenetic dissection of human chromosomes 3 and 21 evolution. Proc. Natl. Acad. Sci. USA 97: 206-211.
2. Braga, E.A., et al. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. Mol. Biol. 37: 194-211.
3. Tsend-Ayush, E., et al. 2004. Plasticity of human chromosome 3 during primate evolution. Genomics 83: 193-202.
4. Yue, Y., et al. 2005. Comparative cytogenetics of human chromosome 3q21.3 reveals a hot spot for ectopic recombination in hominoid evolution. Genomics 85: 36-47.
5. Darai, E., et al. 2005. Evolutionarily plastic regions at human 3p21.3 coincide with tumor breakpoints identified by the "elimination test". Genomics 86: 1-12.
6. Yue, Y., et al. 2005. Genomic structure and paralogous regions of the inversion breakpoint occurring between human chromosome 3p12.3 and orangutan chromosome 2. Cytogenet. Genome Res. 108: 98-105.

CHROMOSOMAL LOCATION

Genetic locus: Esyt3 (mouse) mapping to 9 E3.3.

PRODUCT

E-Syt3 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 E-Syt3 shRNA Plasmid (m): sc-142862-SH and E-Syt3 shRNA (m) Lentiviral Particles: sc-142862-V as alternate gene silencing products.

For independent verification of E-Syt3 (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-142862A, sc-142862B and sc-142862C.

PROTOCOLS

See our web site at 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 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

E-Syt3 siRNA (m) is recommended for the inhibition of E-Syt3 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 E-Syt3 gene expression knockdown using RT-PCR Primer: E-Syt3 (m)-PR: sc-142862-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.