SANTA CRUZ BIOTECHNOLOGY, INC.

IQSEC3 siRNA (h): sc-96232

BACKGROUND

IQSEC3 (IQ motif and SEC7 domain-containing protein 3), also known as KIAA1110, is a 1,182 amino acid protein that belongs to the BRAG family. Localizing to the cytoplasm, IQSEC3 is expressed predominantly in adult brain, where it is observed predominantly in the cerebral cortex and olfactory bulb, with no expression found in the fetal brain. IQSEC3 contains an IQ domain, a PH domain and a SEC7 domain, and interacts with SAP 97 and PSD-95. Acting as a guanine nucleotide exchange factor (GEF) for ARF1, IQSEC3 is encoded by a gene that maps to human chromosome 12p13.33 and mouse chromosome 6 F1. Mutations to the gene encoding IQSEC2 have been linked to non-syndromic X-linked intellectual disability, while both IQSEC1 and IQSEC3 may be candidates for autosomal ID screening. IQSEC3 exists as two alternatively spliced isoforms.

REFERENCES

1. Inaba, Y., et al. 2004. Brain-specific potential guanine nucleotide exchange factor for Arf, synArfGEF (Po), is localized to postsynaptic density. J. Neurochem. 89: 1347-1357.
2. Scherer, S.E., et al. 2006. The finished DNA sequence of human chromosome 12. Nature 440: 346-351.
3. Hattori, Y., et al. 2007. Identification of a neuron-specific human gene, KIAA1110, that is a guanine nucleotide exchange factor for ARF1. Biochem. Biophys. Res. Commun. 364: 737-742.
4. Shoubridge, C., et al. 2010. Subtle functional defects in the Arf-specific guanine nucleotide exchange factor IQSEC2 cause non-syndromic X-linked intellectual disability. Small Gtpases 1: 98-103.
5. Fukaya, M., et al. 2011. SynArfGEF is a guanine nucleotide exchange factor for Arf6 and localizes preferentially at post-synaptic specializations of inhibitory synapses. J. Neurochem. 116: 1122-1137.

CHROMOSOMAL LOCATION

Genetic locus: IQSEC3 (human) mapping to 12p13.33.

PRODUCT

IQSEC3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see IQSEC3 shRNA Plasmid (h): sc-96232-SH and IQSEC3 shRNA (h) Lentiviral Particles: sc-96232-V as alternate gene silencing products.

For independent verification of IQSEC3 (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-96232A, sc-96232B and sc-96232C.

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

IQSEC3 siRNA (h) is recommended for the inhibition of IQSEC3 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 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 IQSEC3 gene expression knockdown using RT-PCR Primer: IQSEC3 (h)-PR: sc-96232-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.