SANTA CRUZ BIOTECHNOLOGY, INC.

Gcom1 siRNA (m): sc-140709

BACKGROUND

Glutamate receptors mediate most excitatory neurotransmission in the brain and play an important role in neural plasticity, neural development and neurodegeneration. Ionotropic glutamate receptors are categorized into NMDA receptors and kainate/AMPA receptors, both of which contain glutamate-gated, cation-specific ion channels. Synaptic and extrasynaptic NMDA receptors have been shown to have opposite effects on neuronal survival, CREB function and gene regulation. Gcom1 (GRINL1A complex locus protein 1), also known as GUP (GRINL1A upstream protein) and Gcom (GRINL1A combined protein), is a 466 amino acid protein that is a component of the GRINL1A complex transcription unit, which is thought to be involved in the modulation of glutamatergic neurotransmission through interaction with the NR1 subunit of the NMDA receptor. Gcom1 is expressed in small intestine, lung, liver, heart, skeletal muscle, testis and prostate and also colocalizes with NR1 in cortical and hippocampal neurons. There are eleven isoforms of Gcom1 that are produced as a result of alternative splicing events.

REFERENCES

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6. Vazhappilly, R. and Sucher, N.J. 2004. Translational regulation of the N-methyl-D-aspartate receptor subunit NR1. Neurosignals 13: 190-193.
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8. Roginski, R.S., Goubaeva, F., Mikami, M., Fried-Cassorla, E., Nair, M.R. and Yang, J. 2008. GRINL1A colocalizes with N-methyl D-aspartate receptor NR1 subunit and reduces N-methyl D-aspartate toxicity. Neuroreport 19: 1721-1726.

CHROMOSOMAL LOCATION

Genetic locus: Myzap (mouse) mapping to 9 D.

PROTOCOLS

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

PRODUCT

Gcom1 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 Gcom1 shRNA Plasmid (m): sc-140709-SH and Gcom1 shRNA (m) Lentiviral Particles: sc-140709-V as alternate gene silencing products.

For independent verification of Gcom1 (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-140709A and sc-140709B.

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

Gcom1 siRNA (m) is recommended for the inhibition of Gcom1 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 Gcom1 gene expression knockdown using RT-PCR Primer: Gcom1 (m)-PR: sc-140709-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.