SANTA CRUZ BIOTECHNOLOGY, INC.

GlyR α4 siRNA (h): sc-270561

BACKGROUND

In the central nervous system, glycine-mediated inhibitory neurotransmission is essential to voluntary motor control and reflex responses. GlyR (glycine receptor), γ-aminobutryic acid, serotonin and acetylcholine comprise an evolutionally conserved superfamily of ligand-gated ion channels. The pentameric subunit structure of GlyR consists of two types of glycosylated membrane proteins, an associated peripheral membrane protein and GlyR α and β subunits, which combine to form a neurotransmitter-gated ion channel. Glycine binds to glycine receptors in the post synaptic neuronal membranes. Binding of glycine to its receptor increases the chloride conductance and thus produces hyperpolarization (inhibition of neuronal firing). A component of GlyR, GlyR α4 (glycine receptor subunit α-4) is a 417 amino acid multi-pass membrane protein encoded by a gene that maps to human chromosome Xq22.2.

REFERENCES

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CHROMOSOMAL LOCATION

Genetic locus: GLRA4 (human) mapping to Xq22.2.

PRODUCT

GlyR α4 siRNA (h) 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 GlyR α4 shRNA Plasmid (h): sc-270561-SH and GlyR α4 shRNA (h) Lentiviral Particles: sc-270561-V as alternate gene silencing products.

For independent verification of GlyR α4 (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-270561A and sc-270561B.

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

GlyR α4 siRNA (h) is recommended for the inhibition of GlyR α4 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 GlyR α4 gene expression knockdown using RT-PCR Primer: GlyR α4 (h)-PR: sc-270561-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.

PROTOCOLS

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