SANTA CRUZ BIOTECHNOLOGY, INC.

$GABA_C$ Rρ2 siRNA (h): sc-105385

BACKGROUND

In the central nervous system inhibitory neurotransmission is primarily achieved through activation of receptors for γ-aminobutyric acid (GABA). The GABA receptor type C ($GABA_C$) is a ligand-gated ion channel with pharmacological properties distinct from the $GABA_A$ receptor. $GABA_A$ and $GABA_C$ receptors form ligand-gated chloride channels. Retinal γ-aminobutyric acid type C ($GABA_C$) receptors consist of ρ subunits. Mouse ρ2 message does not appear until P9, peaks at P15 and remains at this level through adulthood. Picrotoxin binds to the $GABA_C$ receptor in both channel open and closed states.

REFERENCES

1. Bailey M.E., et al. 1999. Genetic linkage and radiation hybrid mapping of the three human $GABA_C$ receptor ρ subunit genes: GABRR1, GABRR2 and GABRR3. Biochim. Biophys. Acta 1447: 307-312.
2. Cutting G.R., et al. 1992. Identification of a putative γ-aminobutyric acid (GABA) receptor subunit ρ2 cDNA and colocalization of the genes encoding ρ2 (GABRR2) and ρ1 (GABRR1) to human chromosome 6q14-q21 and mouse chromosome 4. Genomics 12: 801-806.
3. Greka, A., et al. 2000. Expression of $GABA_C$ receptor ρ1 and ρ2 subunits during development of the mouse retina. Eur. J. Neurosci. 12: 3575-3582.
4. Enz, R. 2001. $GABA_C$ receptors: a molecular view. Biol. Chem. 382: 1111-1122.
5. Ichinose, T., et al. 2002. GABA transporters regulate inhibition in the retina by limiting $GABA_C$ receptor activation. J. Neurosci. 22: 3285-3292.
6. Carland, J.E., et al. 2004. Charged residues at the 2' position of human $GABA_C$ ρ 1 receptors invert ion selectivity and influence open state probability. J. Biol. Chem 279: 54153-54160.
7. Milligan, C.J., et al. 2004. Evidence for inhibition mediated by coassembly of $GABA_A$ and $GABA_C$ receptor subunits in native central neurons. J. Neurosci. 24: 7241-7250.

CHROMOSOMAL LOCATION

Genetic locus: GABRR2 (human) mapping to 6q15.

PRODUCT

$GABA_C$ Rρ2 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 $GABA_C$ Rρ2 shRNA Plasmid (h): sc-105385-SH and $GABA_C$ Rρ2 shRNA (h) Lentiviral Particles: sc-105385-V as alternate gene silencing products.

For independent verification of $GABA_C$ Rρ2 (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-105385A, sc-105385B and sc-105385C.

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

$GABA_C$ Rρ2 siRNA (h) is recommended for the inhibition of $GABA_C$ Rρ2 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 $GABA_C$ Rρ2 gene expression knockdown using RT-PCR Primer: $GABA_C$ Rρ2 (h)-PR: sc-105385-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.