

GABA_C Rp2 siRNA (m): sc-145302

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 ρ 2 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. Cutting G.R., et al. 1992. Identification of a putative γ -aminobutyric acid (GABA) receptor subunit ρ 2 cDNA and colocalization of the genes encoding ρ 2 (GABRR2) and ρ 1 (GABRR1) to human chromosome 6q14-q21 and mouse chromosome 4. *Genomics* 12: 801-806.
2. 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.
3. Greka, A., et al. 2000. Expression of GABA_C receptor ρ 1 and ρ 2 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 (mouse) mapping to 4 A5.

PRODUCT

GABA_C Rp2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see GABA_C Rp2 shRNA Plasmid (m): sc-145302-SH and GABA_C Rp2 shRNA (m) Lentiviral Particles: sc-145302-V as alternate gene silencing products.

For independent verification of GABA_C Rp2 (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-145302A, sc-145302B and sc-145302C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

GABA_C Rp2 siRNA (m) is recommended for the inhibition of GABA_C Rp2 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 μ M in 66 μ l. 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 Rp2 gene expression knockdown using RT-PCR Primer: GABA_C Rp2 (m)-PR: sc-145302-PR (20 μ l). 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.