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Calretinin siRNA (h): sc-43347

BACKGROUND

Calbindin D28K and Calretinin (also designated CR or 29 kDa Calbindin) are two closely related intracellular calcium-binding proteins belonging to the Troponin-C superfamily. Initially isolated from chick retina, Calretinin shares 58% identical residues with human Calbindin D28K. Calretinin is expressed in the brain and is particularly abundant in auditory neurons with precisely timed discharges. Neurons in the nucleus accumbens containing Calretinin all possess nuclear indentations. Calretinin-immunoreactive boutons form asymmetrical and symmetrical synaptic specializations on spines, dendrites and somata. The symmetrical synaptic specializations have medium-sized spiny neurons and contact other Calretinin-immunoreactive somata. Calretinin is widely used as a immunocytochemical marker for mesothelioma.

REFERENCES

1. Rogers, J.H. 1987. Calretinin: a gene for a novel calcium-binding protein expressed principally in neurons. *J. Cell Biol.* 105: 1343-1353.
2. Parmentier, M., et al. 1991. Structure of the human brain calcium-binding protein calretinin and its expression in bacteria. *Eur. J. Biochem.* 196: 79-85.
3. Dreher, B., et al. 1996. Spatiotemporal pattern of ontogenetic expression of calbindin-28/kD in the retinorecipient layers of rat superior colliculus. *J. Comp. Neurol.* 376: 223-240.
4. Hussain, Z., et al. 1996. A light and electron microscopic study of NADPH-diaphorase-, calretinin- and parvalbumin-containing neurons in the rat nucleus accumbens. *J. Chem. Neuroanat.* 10: 19-39.
5. Doglioni, C., et al. 1996. Calretinin: a novel immunocytochemical marker for mesothelioma. *Am. J. Surg. Pathol.* 20: 1037-1046.

CHROMOSOMAL LOCATION

Genetic locus: CALB2 (human) mapping to 16q22.2.

PRODUCT

Calretinin 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Calretinin shRNA Plasmid (h): sc-43347-SH and Calretinin shRNA (h) Lentiviral Particles: sc-43347-V as alternate gene silencing products.

For independent verification of Calretinin (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-43347A, sc-43347B and sc-43347C.

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.

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

Calretinin siRNA (h) is recommended for the inhibition of Calretinin 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 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.

GENE EXPRESSION MONITORING

Calretinin (H-5): sc-365956 is recommended as a control antibody for monitoring of Calretinin gene expression knockdown by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000) or immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500).

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Calretinin gene expression knockdown using RT-PCR Primer: Calretinin (h)-PR: sc-43347-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.