SANTA CRUZ BIOTECHNOLOGY, INC.

CDR2 siRNA (m): sc-142235

BACKGROUND

CDR2 (cerebellar degeneration-related protein 2), also referred to as Yo or CDR62, is a 545 amino acid protein that is associated with the development of paraneoplastic cerebellar degeneration (PCD). PCD, an immune-mediated syndrome, belongs to a heterogeneous group of rare paraneoplastic neurologic disorders affecting the neurological system. PCD is characterized by subacute cerebellar ataxia and occurs mainly in patients with ovarian, uterine, fallopian tube or breast cancer. Patients with ovarian or breast cancer develop an immune response against cancer cell-expressed CDR2 and Purkinje neuron-expressed CDR2. The presence of the anti-CDR2 antibody in patients with PCD symptoms warrants an aggressive approach to diagnosis and treatment of the underlying cancer.

REFERENCES

1. Siniscalco, M., et al. 1991. Physical and genetic mapping of the CDR gene with particular reference to its position with respect to the FRAXA site. Am. J. Med. Genet. 38: 357-362.
2. Peterson, K., et al. 1992. Paraneoplastic cerebellar degeneration. I. A clinical analysis of 55 anti-Yo antibody-positive patients. Neurology 42: 1931-1937.
3. Tanaka, M., et al. 1995. Trial to establish an animal model of paraneoplastic cerebellar degeneration with anti-Yo antibody. 1. Mouse strains bearing different MHC molecules produce antibodies on immunization with recombinant Yo protein, but do not cause Purkinje cell loss. Clin. Neurol. Neurosurg. 97: 95-100.
4. Giometto, B., et al. 1997. Sub-acute cerebellar degeneration with anti-Yo autoantibodies: immunohistochemical analysis of the immune reaction in the central nervous system. Neuropathol. Appl. Neurobiol. 23: 468-474.
5. Shams'ili, S., et al. 2003. Paraneoplastic cerebellar degeneration associated with antineuronal antibodies: analysis of 50 patients. Brain 126: 1409-1418.

CHROMOSOMAL LOCATION

Genetic locus: Cdr2 (mouse) mapping to 7 F2.

PRODUCT

CDR2 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CDR2 shRNA Plasmid (m): sc-142235-SH and CDR2 shRNA (m) Lentiviral Particles: sc-142235-V as alternate gene silencing products.

For independent verification of CDR2 (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-142235A, sc-142235B and sc-142235C.

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 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

CDR2 siRNA (m) is recommended for the inhibition of CDR2 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 CDR2 gene expression knockdown using RT-PCR Primer: CDR2 (m)-PR: sc-142235-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.