SANTA CRUZ BIOTECHNOLOGY, INC.

ARHGEF9 siRNA (m): sc-141229

BACKGROUND

ARHGEF9 (Rho guanine nucleotide exchange factor 9), also known as PEM-2 homolog or Collybistin, is a 516 amino acid cytoplasmic protein. ARHGEF9 acts as a guanine nucleotide exchange factor for Cdc42 and promotes formation of Gephyrin clusters by directly interacting with Gephyrin. ARHGEF9 contains one DH (DBL-homology) domain, one PH domain and one SH3 domain. Defects in the gene encoding ARHGEF9 are a believed to be a cause for startle disease with epilepsy (STHEE), also known as hyperekplexia with epilepsy. This disease is a heterogenous neurological disorder characterized by muscular rigidity, particularly in the neonatal period, and a startle response to auditory or tactile stimuli.

REFERENCES

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3. Grosskreutz, Y., et al. 2001. Identification of a gephyrin-binding motif in the GDP/GTP exchange factor collybistin. Biol. Chem. 382: 1455-1462.
4. Harvey, K., et al. 2004. The GDP-GTP exchange factor collybistin: an essential determinant of neuronal gephyrin clustering. J. Neurosci. 24: 5816-5826.
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6. Marco, E.J., et al. 2008. ARHGEF9 disruption in a female patient is associated with X linked mental retardation and sensory hyperarousal. J. Med. Genet. 45: 100-105.
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CHROMOSOMAL LOCATION

Genetic locus: Arhgef9 (mouse) mapping to X C3.

PRODUCT

ARHGEF9 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 ARHGEF9 shRNA Plasmid (m): sc-141229-SH and ARHGEF9 shRNA (m) Lentiviral Particles: sc-141229-V as alternate gene silencing products.

For independent verification of ARHGEF9 (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-141229A, sc-141229B and sc-141229C.

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

ARHGEF9 siRNA (m) is recommended for the inhibition of ARHGEF9 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.

GENE EXPRESSION MONITORING

ARHGEF9 (3): sc-136393 is recommended as a control antibody for monitoring of ARHGEF9 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 ARHGEF9 gene expression knockdown using RT-PCR Primer: ARHGEF9 (m)-PR: sc-141229-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.