

Dysbindin siRNA (r): sc-106988

BACKGROUND

Hermansky-Pudlak syndrome (HPS) is a rare, genetically heterogeneous, autosomal recessive disorder. It is characterized by oculocutaneous albinism, lysosomal storage defects and prolonged bleeding due to platelet storage pool deficiency. HPS is a result of defects in various cytoplasmic organelles such as melanosomes, platelet dense granules and lysosomes. The HPS proteins, including HPS-1-6 and Dysbindin (also designated HPS-7), all interact within three distinct, ubiquitously expressed protein complexes or biogenesis of lysosome-related organelle complexes. Defects in the genes encoding for these proteins are the cause of HPS. Dysbindin binds to dystrobrevins in the dystrophin-associated protein complex (DPC) complex. Dysbindin is a cytoplasmic protein. Isoforms 1 and 2 are the result of alternative splicing.

REFERENCES

1. Schosser, A. and Aschauer, H.N. 2004. In search of susceptibility genes for schizophrenia. *Wien. Klin. Wochenschr.* 116: 827-833.
2. Numakawa, T., et al. 2004. Evidence of novel neuronal functions of Dysbindin, a susceptibility gene for schizophrenia. *Hum. Mol. Genet.* 13: 2699-2708.
3. Kendler, K.S. 2004. Schizophrenia genetics and Dysbindin: a corner turned? *Am. J. Psychiatry* 161: 1533-1536.
4. Benson, M.A., et al. 2004. Schizophrenia genetics: dysbindin under the microscope. *Trends Neurosci.* 27: 516-519.
5. Zill, P., et al. 2004. The Dysbindin gene in major depression: an association study. *Am. J. Med. Genet. B Neuropsychiatr. Genet.* 129: 55-58.
6. Bray, N.J., et al. 2005. Haplotypes at the dystrobrevin binding protein 1 (DTNBP1) gene locus mediate risk for schizophrenia through reduced DTNBP1 expression. *Hum. Mol. Genet.* 14: 1947-1954.

CHROMOSOMAL LOCATION

Genetic locus: Dtnbp1 (rat) mapping to 17p14.

PRODUCT

Dysbindin siRNA (r) 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 Dysbindin shRNA Plasmid (r): sc-106988-SH and Dysbindin shRNA (r) Lentiviral Particles: sc-106988-V as alternate gene silencing products.

For independent verification of Dysbindin (r) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-106988A, sc-106988B and sc-106988C.

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

Dysbindin siRNA (r) is recommended for the inhibition of Dysbindin expression in rat 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

Dysbindin (D-8): sc-390626 is recommended as a control antibody for monitoring of Dysbindin 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 Dysbindin gene expression knockdown using RT-PCR Primer: Dysbindin (r)-PR: sc-106988-PR (20 μ l). 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.