



Oas1d siRNA (m): sc-61242

BACKGROUND

The 2', 5'-oligoadenylate synthetases (OASs) are interferon-induced proteins that play a putative role in mediating resistance to virus infection, control of cell growth, differentiation and apoptosis. OAS1, which functions as a homotetramer, is characterized by its capacity to catalyze the synthesis of 2', 5'-oligomers of adenosine (2-5As). OAS1 binds double-stranded RNA and polymerizes ATP into PPP(A₂P₅A)_N oligomers, activating latent RNase L which, when activated, cleaves single-stranded RNAs. This RNase L activity leads to the inhibition of cellular protein synthesis and the impairment of viral replication. OAS1, a 400 amino acid containing protein, is also important in evaluating the interferon response in RNAi studies, and is implicated in diabetes mellitus susceptibility.

REFERENCES

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3. Hovnanian, A., et al. 1998. The human 2',5'-oligoadenylate synthetase locus is composed of three distinct genes clustered on chromosome 12q24.2 encoding the 100-, 69-, and 40-kDa forms. *Genomics* 52: 267-277.
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7. Field, L.L., et al. 2005. OAS1 splice site polymorphism controlling antiviral enzyme activity influences susceptibility to type 1 diabetes. *Diabetes* 54: 1588-1591.
8. Hamano, E., et al. 2005. Polymorphisms of interferon-inducible genes OAS1 and MxA associated with SARS in the Vietnamese population. *Biochem. Biophys. Res. Commun.* 329: 1234-1239.
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CHROMOSOMAL LOCATION

Genetic locus: Oas1d (mouse) mapping to 5 F.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

PRODUCT

Oas1d 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 Oas1d shRNA Plasmid (m): sc-61242-SH and Oas1d shRNA (m) Lentiviral Particles: sc-61242-V as alternate gene silencing products.

For independent verification of Oas1d (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-61242A, sc-61242B and sc-61242C.

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

Oas1d siRNA (m) is recommended for the inhibition of Oas1d 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 Oas1d gene expression knockdown using RT-PCR Primer: Oas1d (m)-PR: sc-61242-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.