SANTA CRUZ BIOTECHNOLOGY, INC.

OAS3 siRNA (m): sc-61246

BACKGROUND

The 2'-5'-oligoadenylate synthetase (OAS) family is comprised of four members: OAS1, OAS2, OAS3 and OASL. These proteins are induced by interferons and function to convert ATP into 2'-5'-linked oligomers of adenosine in the presence of double-stranded RNA and magnesium ions. Copper, iron and zinc ions strongly inhibit the OAS enzymatic activity, while manganese ions can replace magnesium ions as an activator. The OAS family plays a significant role in the inhibition of cellular protein synthesis, apoptosis and growth, and its members are important factors in viral infection resistance. OAS3, also referred to as p100, contains three adjacent OAS1-like domains and maps to the human chromosome 12q24.13.

REFERENCES

1. Hovanessian, A.G., et al. 1987. Identification of 69 kDa and 100 kDa forms of 2-5A synthe-tase in interferon-treated human cells by specific monoclonal antibodies. EMBO J. 6: 1273-1280.
2. Corrias, M.V., et al. 1995. Induction of 2.5 OAS gene expression and activity is not sufficient for IFN-γ-induced neuroblastoma cell differentiation. Int. J. Cancer 62: 223-229.
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.
4. Eskildsen, S., et al. 2002. Gene structure of the murine 2'-5'-oligoadenylate synthetase family. Cell. Mol. Life Sci. 59: 1212-1222.
5. Kakuta, S., et al. 2002. Genomic structure of the mouse 2'-5'-oligoadenylate synthetase gene family. J. Interferon Cytokine Res. 22: 981-993.
6. Eskildsen, S., et al. 2003. Char-acterization of the 2'-5'-oligoadenylate synthetase ubiquitin-like family. Nucleic Acids Res. 31: 3166-3173.
7. Andersen, J.B., et al. 2004. Interaction between the 2'-5'-oligoadenylate synthetase-like protein p59 OASL and the transcriptional repressor methyl CpG-binding protein 1. Eur. J. Biochem. 271: 628-636.

CHROMOSOMAL LOCATION

Genetic locus: Oas3 (mouse) mapping to 5 F.

PRODUCT

OAS3 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 OAS3 shRNA Plasmid (m): sc-61246-SH and OAS3 shRNA (m) Lentiviral Particles: sc-61246-V as alternate gene silencing products.

For independent verification of OAS3 (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-61246A, sc-61246B and sc-61246C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.

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

OAS3 siRNA (m) is recommended for the inhibition of OAS3 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

OAS3 (D-7): sc-398225 is recommended as a control antibody for monitoring of OAS3 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 OAS3 gene expression knockdown using RT-PCR Primer: OAS3 (m)-PR: sc-61246-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

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