



AIFL siRNA (m): sc-140965

BACKGROUND

AIFL (apoptosis-inducing factor-like), also known as AIFM3 (apoptosis-inducing factor, mitochondrion-associated, 3), is a 605 amino acid protein that localizes to the mitochondrion and contains one Rieske domain. Expressed ubiquitously in tissues including liver, thymus, ovary, bone marrow and cerebral cortex, AIFL functions to induce apoptosis, specifically through a caspase-dependent pathway, and may also play a role in the modulation of mitochondrial membrane potential. Multiple isoforms of AIFL exist due to alternative splicing events. The gene encoding AIFL maps to human chromosome 22, which houses over 500 genes and is the second smallest human chromosome. Mutations in several of the genes that map to chromosome 22 are involved in the development of Phelan-McDermid syndrome, Neurofibromatosis type 2, autism and schizophrenia.

REFERENCES

1. Gilbert, F. 1998. Disease genes and chromosomes: disease maps of the human genome. *Chromosome 22. Genet. Test.* 2: 89-97.
2. Susin, S.A., et al. 1999. Molecular characterization of mitochondrial apoptosis-inducing factor. *Nature* 397: 441-446.
3. Cande, C., et al. 2002. Apoptosis-inducing factor (AIF): a novel caspase-independent death effector released from mitochondria. *Biochimie* 84: 215-222.
4. Tsilchorozidou, T., et al. 2004. Constitutional rearrangements of chromosome 22 as a cause of neurofibromatosis 2. *J. Med. Genet.* 41: 529-534.
5. Urbano, A., et al. 2005. AIF suppresses chemical stress-induced apoptosis and maintains the transformed state of tumor cells. *EMBO J.* 24: 2815-2826.
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CHROMOSOMAL LOCATION

Genetic locus: Aifm3 (mouse) mapping to 16 A3.

PRODUCT

AIFL siRNA (m) is a pool of 2 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 AIFL shRNA Plasmid (m): sc-140965-SH and AIFL shRNA (m) Lentiviral Particles: sc-140965-V as alternate gene silencing products.

For independent verification of AIFL (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-140965A and sc-140965B.

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

AIFL siRNA (m) is recommended for the inhibition of AIFL 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 AIFL gene expression knockdown using RT-PCR Primer: AIFL (m)-PR: sc-140965-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.