SANTA CRUZ BIOTECHNOLOGY, INC.

FAIM2 siRNA (h): sc-95999

BACKGROUND

FAIM2 (Fas apoptotic inhibitory molecule 2), also known as LFG (protein lifeguard), TMBIM2 (transmembrane BAX inhibitor motif-containing protein 2) and NMP35 (neural membrane protein 35), is a 316 amino acid multipass membrane protein that uniquely protects cells from Fas-induced apoptosis. Though widely expressed, FAIM2 expression is highest in hippocampus. FAIM2 contains seven transmembrane domains and resembles Bax Inhibitor-1, another anti-apoptotic protein. Overexpression of FAIM2 results in decreased caspase activation and reduced incidence of programmed cell death. Though mechanistically related to the Fas signal, FAIM2 does not protect cells from apoptosis that is mediated by TNF-α signaling. FAIM2 specifically regulates apoptosis by binding to the FAS receptor.

REFERENCES

1. Schweitzer, B., et al. 1998. Neural membrane protein 35 (NMP35): a novel member of a gene family which is highly expressed in the adult nervous system. Mol. Cell. Neurosci. 11: 260-273.
2. Somia, N.V., et al. 1999. LFG: an anti-apoptotic gene that provides protection from Fas-mediated cell death. Proc. Natl. Acad. Sci. USA 96: 12667-12672.
3. Schweitzer, B., et al. 2002. Neural membrane protein 35/Lifeguard is localized at postsynaptic sites and in dendrites. Brain Res. Mol. Brain Res. 107: 47-56.
4. Online Mendelian Inheritance in Man, OMIM™. 2004. Johns Hopkins University, Baltimore, MD. MIM Number: 604306. World Wide Web URL: http://www.ncbi.nlm.nih.gov/omim/
5. Choi, C.Y., et al. 2007. Inhibition of apoptosis by expression of antiapoptotic proteins in recombinant human keratinocytes. Cell Transplant. 16: 663-674.
6. Fernández, M., et al. 2007. Lifeguard/neuronal membrane protein 35 regulates Fas ligand-mediated apoptosis in neurons via microdomain recruitment. J. Neurochem. 103: 190-203.
7. Reimers, K., et al. 2008. The Bax Inhibitor-1 (BI-1) family in apoptosis and tumorigenesis. Curr. Mol. Med. 8: 148-156.

CHROMOSOMAL LOCATION

Genetic locus: FAIM2 (human) mapping to 12q13.

PRODUCT

FAIM2 siRNA (h) 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 FAIM2 shRNA Plasmid (h): sc-95999-SH and FAIM2 shRNA (h) Lentiviral Particles: sc-95999-V as alternate gene silencing products.

For independent verification of FAIM2 (h) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-95999A, sc-95999B and sc-95999C.

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

FAIM2 siRNA (h) is recommended for the inhibition of FAIM2 expression in human 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

FAIM2 (H-7): sc-398737 is recommended as a control antibody for monitoring of FAIM2 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 FAIM2 gene expression knockdown using RT-PCR Primer: FAIM2 (h)-PR: sc-95999-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.