SANTA CRUZ BIOTECHNOLOGY, INC.

MOAP1 siRNA (m): sc-62630

BACKGROUND

MOAP1 (modulator of apoptosis 1) is a 352 amino acid protein encoded by the human gene MOAP1. MOAP1 belongs to the PNMA family and contains one BH3-like domain and one RASSF1-binding domain. It is required for death receptor-dependent apoptosis. When MOAP1 is associated with RASSF1, it promotes a Bax conformational change and translocation to mitochondrial membranes in response to TNF and TNFSF10 stimulation. MOAP1 is a homodimer and, under normal circumstances, is held in an inactive conformation by an intramolecular interaction. Binding to RASSF1 isoform A (RASSF1A) relieves this inhibitory interaction and allows further binding to Bax. MOAP1 will also bind to Bcl-2 and Bcl-x.

REFERENCES

1. Tan, K.O., et al. 2001. MAP-1, a novel proapoptotic protein containing a BH3-like motif that associates with Bax through its Bcl-2 homology domains. J. Biol. Chem. 276: 2802-2807.
2. Tan, K.O., et al. 2005. MAP-1 is a mitochondrial effector of Bax. Proc. Natl. Acad. Sci. USA 102: 14623-14628.
3. Baksh, S., et al. 2005. The tumor suppressor RASSF1A and MAP-1 link death receptor signaling to Bax conformational change and cell death. Mol. Cell 18: 637-650.
4. Tretyakova, I., et al. 2005. Nuclear export factor family protein participates in cytoplasmic mRNA trafficking. J. Biol. Chem. 280: 31981-31990.
5. Schüller, M., et al. 2005. The human PNMA family: novel neuronal proteins implicated in paraneoplastic neurological disease. J. Neuroimmunol. 169: 172-176.
6. Vos, M.D., et al. 2006. The RASSF1A tumor suppressor activates Bax via MOAP1. J. Biol. Chem. 281: 4557-4563.
7. Fu, N.Y., et al. 2007. Inhibition of ubiquitin-mediated degradation of MOAP1 by apoptotic stimuli promotes Bax function in mitochondria. Proc. Natl. Acad. Sci. USA 104: 10051-10056.

CHROMOSOMAL LOCATION

Genetic locus: Moap1 (mouse) mapping to 12 E.

PRODUCT

MOAP1 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 MOAP1 shRNA Plasmid (m): sc-62630-SH and MOAP1 shRNA (m) Lentiviral Particles: sc-62630-V as alternate gene silencing products.

For independent verification of MOAP1 (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-62630A, sc-62630B and sc-62630C.

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 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

MOAP1 siRNA (m) is recommended for the inhibition of MOAP1 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

MOAP1 (E-8): sc-271467 is recommended as a control antibody for monitoring of MOAP1 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 MOAP1 gene expression knockdown using RT-PCR Primer: MOAP1 (m)-PR: sc-62630-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.