

BAI-1 siRNA (m): sc-45209

BACKGROUND

Brain-specific angiogenesis inhibitors, including BAI-1, BAI-2 and BAI-3, are integral membrane proteins belonging to the G protein-coupled receptor 2 family. In addition to inhibiting angiogenesis in the brain, BAI proteins are also expressed in the heart, thymus, skeletal muscle and a variety of cell lines. BAI-1 protein is specifically expressed in the brain and found to localize to the cytoplasm and membrane in neuronal cells of the cerebral cortex. Reduced expression of BAI-1 in some glioblastoma cell lines and cancer tissues implicates the functional role of BAI-1 as an inhibitor of angiogenesis. The exact mechanisms underlying BAI-1 anti-angiogenic activity are still being investigated. BAI-1 may be involved in mediating the p53 signal in suppression of glioblastoma, as well as in cell adhesion and signal transduction. Additional research shows an inverse correlation with vascularization and BAI-1 expression in both colorectal carcinomas and pulmonary adenocarcinomas.

REFERENCES

1. Nishimori, H., et al. 1997. A novel brain-specific p53-target gene, BAI1, containing thrombospondin type 1 repeats inhibits experimental angiogenesis. *Oncogene* 15: 2145-2150.
2. Shiratsuchi, T., et al. 1998. Cloning and characterization of BAI-associated protein 1: a PDZ domain-containing protein that interacts with BAI1. *Biochemistry* 247: 597-604.
3. Fukushima, Y., et al. 1998. Brain-specific angiogenesis inhibitor 1 expression is inversely correlated with vascularity and distant metastasis of colorectal cancer. *Int. J. Oncol.* 13: 967-970.
4. Hatanaka, H., et al. 2000. Vascularization is decreased in pulmonary adenocarcinoma expressing brain-specific angiogenesis inhibitor 1 (BAI1). *Int. J. Mol. Med.* 5: 181-183.
5. Mori, K., et al. 2002. Brain-specific angiogenesis inhibitor 1 (BAI1) is expressed in human cerebral neuronal cells. *Neurosci. Res.* 43: 69-74.
6. Duda, D.G., et al. 2002. Overexpression of the p53-inducible brain-specific angiogenesis inhibitor 1 suppresses efficiently tumour angiogenesis. *Br. J. Cancer* 86: 490-496.
7. Koh, J.T., et al. 2004. Extracellular fragment of brain-specific angiogenesis inhibitor 1 suppresses endothelial cell proliferation by blocking $\alpha v \beta 5$ integrin. *Exp. Cell Res.* 294: 172-184.
8. SWISS-PROT/TrEMBL (O14514). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

CHROMOSOMAL LOCATION

Genetic locus: Bai1 (mouse) mapping to 15 D3.

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.

PRODUCT

BAI-1 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 BAI-1 shRNA Plasmid (m): sc-45209-SH and BAI-1 shRNA (m) Lentiviral Particles: sc-45209-V as alternate gene silencing products.

For independent verification of BAI-1 (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-45209A, sc-45209B and sc-45209C.

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

BAI-1 siRNA (m) is recommended for the inhibition of BAI-1 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 BAI-1 gene expression knockdown using RT-PCR Primer: BAI-1 (m)-PR: sc-45209-PR (20 μ l, 563 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.