

BAI-2 siRNA (h): sc-45210

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. Expression patterns of BAI-2 in the developing brain distinctly increase as development progresses. Localization of BAI-2 in most neurons of the cerebral cortex is analogous with BAI-1 expression. The activity of brain-specific angiogenesis inhibitor proteins has been inversely correlated with vascularization in some cancer tissues. Ischemic brain shows notably decreased expression of BAI-2 after hypoxia, which precludes increased expression of vascular endothelial growth factor, VEGF. A better understanding of the anti-angiogenic activity of these BAIs may offer potential therapeutic benefits.

REFERENCES

1. Nishimori, H., et al. 1997. A novel brain-specific p53-target gene, BAI-1, 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 BAI-1. *Biochemistry* 247: 597-604.
3. Kee, H.J., et al. 2002. Expression of brain-specific angiogenesis inhibitor 2 (BAI-2) in normal and ischemic brain: involvement of BAI-2 in the ischemia-induced brain. *J. Cereb. Blood Flow Metab.* 22: 1054-1067.
4. Kaur, B., et al. 2003. Brain angiogenesis inhibitor 1 is differentially expressed in normal brain and glioblastoma independently of p53 expression. *Am. J. Pathol.* 162: 19-27.
5. Kee, H.J., et al. 2004. Expression of brain-specific angiogenesis inhibitor 3 (BAI-3) in normal brain and implications for BAI-3 in ischemia-induced brain angiogenesis and malignant glioma. *FEBS Lett.* 569: 307-316.

CHROMOSOMAL LOCATION

Genetic locus: BAI2 (human) mapping to 1p35.2.

PRODUCT

BAI-2 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see BAI-2 shRNA Plasmid (h): sc-45210-SH and BAI-2 shRNA (h) Lentiviral Particles: sc-45210-V as alternate gene silencing products.

For independent verification of BAI-2 (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-45210A, sc-45210B and sc-45210C.

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

BAI-2 siRNA (h) is recommended for the inhibition of BAI-2 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 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.

GENE EXPRESSION MONITORING

BAI-2 (6A12): sc-517130 is recommended as a control antibody for monitoring of BAI-2 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 BAI-2 gene expression knockdown using RT-PCR Primer: BAI-2 (h)-PR: sc-45210-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.