SANTA CRUZ BIOTECHNOLOGY, INC.

AIM1 siRNA (m): sc-61961

BACKGROUND

The β/γ-crystallin family of proteins consists of stable structural proteins primarily expressed in the vertebrate eye lens, contributing to its optical properties. Members of this family contain two or four β/γ motifs arranged in one or two symmetrical domains. AIM1 (Absent in Melanoma 1 protein), also known as ST4, is a non-lens member of the β/γ-crystallin family. In contrast to other family members, it contains twelve β/γ motifs arranged in six symmetrical domains and one Ricin B-type lectin domain. The first symmetrical domain, called AIM1g1 (motifs a1 and a2), of AIM1 is the most divergent from other family members. It is known to bind calcium ions and it may play a critical role in the specific function of AIM1. AIM1 is abundantly expressed in suppressed melanoma cells but it is not expressed in tumorogenic cells, suggesting that AIM1 plays a role in the suppression of melanomas. A mutation in the gene encoding AIM1 is involved in the later progression stages of melanoma.

REFERENCES

1. Ray, M.E., et al. 1997. AIM1, a novel non-lens member of the β/γ-crystallin superfamily, is associated with the control of tumorigenicity in human malignant melanoma. Proc. Natl. Acad. Sci. USA 94: 3229-3234.
2. Teichmann, U., et al. 1999. Cloning and tissue expression of the mouse ortholog of AIM1, a β/γ-crystallin superfamily member. Mamm. Genome 9: 715-720.
3. Saida, T. 2001. Recent advances in melanoma research. J. Dermatol. Sci. 26: 1-13.
4. Du, J. and Fisher, D.E. 2002. Identification of AIM1 as the underwhite mouse mutant and its transcriptional regulation by MITF. J. Biol. Chem. 277: 402-406.
5. Rajini, B., et al. 2003. Stability, homodimerization, and calcium-binding properties of a single, variant β/γ-crystallin domain of the protein absent in melanoma 1 (AIM1). Biochemistry 42: 4552-4559.

CHROMOSOMAL LOCATION

Genetic locus: Aim1 (mouse) mapping to 10 B2.

PRODUCT

AIM1 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 AIM1 shRNA Plasmid (m): sc-61961-SH and AIM1 shRNA (m) Lentiviral Particles: sc-61961-V as alternate gene silencing products.

For independent verification of AIM1 (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-61961A, sc-61961B and sc-61961C.

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

AIM1 siRNA (m) is recommended for the inhibition of AIM1 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor AIM1 gene expression knockdown using RT-PCR Primer: AIM1 (m)-PR: sc-61961-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.