SANTA CRUZ BIOTECHNOLOGY, INC.

AIP1 siRNA (m): sc-72469

BACKGROUND

AIP1 (ASK-interacting protein 1), also known as DAB2IP (DAB2 interacting protein), is a 1,189 amino acid protein that localizes to both the membrane and the cytoplasm and contains one Ras GAP domain, one PH domain and one C2 domain. Expressed at low levels in prostate tissue, AIP1 functions as a Ras GTPase-activating protein that interacts with ASK 1 and, via this interaction, disrupts the association of ASK 1 with an inhibitory 14-3-3 complex, thereby allowing free ASK 1 to function within the cell. AIP1 exists as multiple alternatively spliced isoforms and is downregulated in prostate cancer tissue, suggesting a role in tumor suppression. Chromosomal aberrations in the gene encoding AIP1 are associated with acute myeloid leukemia (AML), implicating a role for AIP1 fusion proteins in tumorigenesis.

REFERENCES

1. Chen, H., et al. 2002. Differential regulation of the human gene DAB2IP in normal and malignant prostatic epithelia: cloning and characterization. Genomics 79: 573-581.
2. Wang, Z., et al. 2002. The mechanism of growth-inhibitory effect of DOC-2/DAB2 in prostate cancer. Characterization of a novel GTPase-activating protein associated with N-terminal domain of DOC-2/DAB2. J. Biol. Chem. 277: 12622-12631.
3. Chen, H., et al. 2003. Epigenetic regulation of a novel tumor suppressor gene (hDAB2IP) in prostate cancer cell lines. J. Biol. Chem. 278: 3121-3130.
4. Zhang, R., et al. 2003. AIP1 mediates TNFα-induced ASK 1 activation by facilitating dissociation of ASK 1 from its inhibitor 14-3-3. J. Clin. Invest. 111: 1933-1943.
5. Zhang, H., et al. 2004. AIP1/DAB2IP, a novel member of the Ras GAP family, transduces TRAF2-induced ASK 1-JNK activation. J. Biol. Chem. 279: 44955-44965.

CHROMOSOMAL LOCATION

Genetic locus: Dab2ip (mouse) mapping to 2 B.

PRODUCT

AIP1 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 AIP1 shRNA Plasmid (m): sc-72469-SH and AIP1 shRNA (m) Lentiviral Particles: sc-72469-V as alternate gene silencing products.

For independent verification of AIP1 (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-72469A, sc-72469B and sc-72469C.

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

AIP1 siRNA (m) is recommended for the inhibition of AIP1 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

AIP1 (F-3): sc-365921 is recommended as a control antibody for monitoring of AIP1 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 AIP1 gene expression knockdown using RT-PCR Primer: AIP1 (m)-PR: sc-72469-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Wang, H., et al. 2015. Amyloid β regulates the expression and function of AIP1. J. Mol. Neurosci. 55: 227-232.

RESEARCH USE

For research use only, not for use in diagnostic procedures.