

Angiomotin siRNA (h): sc-72489

BACKGROUND

Angiomotin, also known as AMOT, is a 1,084 amino acid protein that belongs to the motin family of angiostatin binding proteins. Members of the motin family contain conserved coiled-coil domains and PDZ binding motifs at their C-termini. Expressed in skeletal muscle and placenta, Angiomotin localizes to the cell surface at tight junctions and is believed to be involved in tight junction maintenance. Angiomotin binds to angiostatin and plays a vital role in angiogenesis, promoting tubule formation and growth factor-induced migration of endothelial cells. This suggests that Angiomotin may be an important player in tumor angiogenesis and could serve as a potential therapeutic target in cancer. Due to alternative splicing events, two Angiomotin isoforms exist, namely p130 and p80. The p130 isoform exhibits a different expression pattern from the p80 isoform and is able to interact with F-Actin as well as induce Actin fiber formation.

REFERENCES

1. Kikuno, R., et al. 1999. Prediction of the coding sequences of unidentified human genes. XIV. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 6: 197-205.
2. Troyanovsky, B., et al. 2001. Angiomotin: an angiostatin binding protein that regulates endothelial cell migration and tube formation. J. Cell Biol. 152: 1247-1254.
3. Online Mendelian Inheritance in Man, OMIM[™]. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 300410. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Wells, C.D., et al. 2006. A Rich1/Amot complex regulates the Cdc42 GTPase and apical-polarity proteins in epithelial cells. Cell 125: 535-548.

CHROMOSOMAL LOCATION

Genetic locus: AMOT (human) mapping to Xq23.

PRODUCT

Angiomotin 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 Angiomotin shRNA Plasmid (h): sc-72489-SH and Angiomotin shRNA (h) Lentiviral Particles: sc-72489-V as alternate gene silencing products.

For independent verification of Angiomotin (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-72489A, sc-72489B and sc-72489C.

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

Angiomotin siRNA (h) is recommended for the inhibition of Angiomotin 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

Angiomotin (B-4): sc-166924 is recommended as a control antibody for monitoring of Angiomotin 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 Angiomotin gene expression knockdown using RT-PCR Primer: Angiomotin (h)-PR: sc-72489-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Ruan, W., et al. 2016. Long non-coding RNA small nucleolar RNA host gene 12 (SNHG12) promotes cell proliferation and migration by upregulating angiomotin gene expression in human osteosarcoma cells. Tumour Biol. 37: 4065-4073.
2. Shimada, H., et al. 2017. Loss of tricellular tight junction protein LSR promotes cell invasion and migration via upregulation of TEAD1/AREG in human endometrial cancer. Sci. Rep. 7: 37049.

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.