SANTA CRUZ BIOTECHNOLOGY, INC.

advillin siRNA (m): sc-72459

BACKGROUND

Advillin, also known as AVIL, p92 or DOC6, is an 819 amino acid protein that localizes to both the cytoplasm and the cytoskeleton and contains one HP domain and six Gelsolin-like repeats. Expressed at high levels in colon and small intestine and at lower levels in uterus, thymus, testis and prostate, advillin functions as a calcium-regulated Actin-binding protein that may be involved in the development of neuronal cells, specifically those that form ganglia. The gene encoding advillin maps to human chromosome 12, which encodes over 1,100 genes and comprises approximately 4.5% of the human genome. Chromosome 12 is associated with a variety of diseases and afflictions, including hypochondrogenesis, achondrogenesis, Kniest dysplasia, Noonan syndrome and Trisomy 12p, which causes facial developmental defects and seizure disorders.

REFERENCES

1. Arpin, M., et al. 1988. Sequence of human Villin: a large duplicated domain homologous with other Actin-severing proteins and a unique small carboxy-terminal domain related to Villin specificity. J. Cell Biol. 107: 1759-1766.
2. Marks, P.W., et al. 1998. Advillin (p92): a new member of the Gelsolin/Villin family of Actin regulatory proteins. J. Cell Sci. 111: 2129-2136.
3. Tümer, Z., et al. 2002. Genomic structure, chromosome mapping and expression analysis of the human AVIL gene, and its exclusion as a candidate for locus for inflammatory bowel disease at 12q13-14 (IBD2). Gene 288: 179-185.
4. Silacci, P., et al. 2004. Gelsolin superfamily proteins: key regulators of cellular functions. Cell. Mol. Life Sci. 61: 2614-2623.
5. Shibata, M., et al. 2004. Type F scavenger receptor SREC-I interacts with advillin, a member of the Gelsolin/Villin family, and induces neurite-like outgrowth. J. Biol. Chem. 279: 40084-40090.
6. Vermeulen, W., et al. 2004. Solution structures of the C-terminal headpiece subdomains of human Villin and advillin, evaluation of headpiece F-Actin-binding requirements. Protein Sci. 13: 1276-1287.

CHROMOSOMAL LOCATION

Genetic locus: Avil (mouse) mapping to 10 D3.

PRODUCT

advillin 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 advillin shRNA Plasmid (m): sc-72459-SH and advillin shRNA (m) Lentiviral Particles: sc-72459-V as alternate gene silencing products.

For independent verification of advillin (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-72459A, sc-72459B and sc-72459C.

RESEARCH USE

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

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

advillin siRNA (m) is recommended for the inhibition of advillin 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 advillin gene expression knockdown using RT-PCR Primer: advillin (m)-PR: sc-72459-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.