SANTA CRUZ BIOTECHNOLOGY, INC.

ASC2 siRNA (h): sc-93399

BACKGROUND

The death domain (DD) superfamily of proteins share one or more of the following domains: the DD, DED (death-effector domain), CARD (caspase-recruitment domain) and PYD (Pyrin domain). Each of these domains is characterized by a canonical death domain fold, which consists of a bundle of five or six antiparallel -helices. As their names suggest, these domains play prominent roles in programmed cell death. ASC2 (apoptosis-associated speck-like protein containing a CARD 2), also known as Pyrin-only protein 1 or PADD-only protein 1, is an 89 amino acid member of the DD superfamily that contains one Pyrin domain. Localized to the cytoplasm, ASC2 interacts with ASC to modulate NF-κB and pro-caspase-1 regulation. ASC2 is predominantly expressed in monocytes, macrophages and granulocytes.

REFERENCES

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2. Fairbrother, W.J., et al. 2001. The PYRIN domain: a member of the death domain-fold superfamily. Protein Sci. 10: 1911-1918.
3. Staub, E., et al. 2001. The DAPIN family: a novel domain links apoptotic and interferon response proteins. Trends Biochem. Sci. 26: 83-85.
4. Pawłowski, K., et al. 2001. PAAD-a new protein domain associated with apoptosis, cancer and autoimmune diseases. Trends Biochem. Sci. 26: 85-87.
5. Stehlik, C., et al. 2003. The PAAD/PYRIN-only protein POP1/ASC2 is a modulator of ASC-mediated nuclear-factor-κB and pro-caspase-1 regulation. Biochem. J. 373: 101-113.
6. Liepinsh, E., et al. 2003. The death-domain fold of the ASC PYRIN domain, presenting a basis for PYRIN/PYRIN recognition. J. Mol. Biol. 332: 1155-1163.
7. Kohl, A., et al. 2004. Fire and death: the pyrin domain joins the death-domain superfamily. C. R. Biol. 327: 1077-1086.
8. Natarajan, A., et al. 2006. Structure and dynamics of ASC2, a pyrin domain-only protein that regulates inflammatory signaling. J. Biol. Chem. 281: 31863-31875.

CHROMOSOMAL LOCATION

Genetic locus: PYDC1 (human) mapping to 16p11.2.

PRODUCT

ASC2 siRNA (h) is a target-specific 19-25 nt siRNA 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 ASC2 shRNA Plasmid (h): sc-93399-SH and ASC2 shRNA (h) Lentiviral Particles: sc-93399-V as alternate gene silencing products.

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

ASC2 siRNA (h) is recommended for the inhibition of ASC2 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 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 ASC2 gene expression knockdown using RT-PCR Primer: ASC2 (h)-PR: sc-93399-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.