SANTA CRUZ BIOTECHNOLOGY, INC.

ASB-4 siRNA (m): sc-141291

BACKGROUND

Members of the suppressor of cytokine signaling (SOCS) family of proteins contain C-terminal regions of homology called the SOCS box, which serves to couple SOCS proteins and their binding partners with the elongin B and C complex. Serveral other families of proteins also contain SOCS boxes but differ from the SOCS proteins in the type of domain they contain upstream of the SOCS box. Four members of the ankyrin repeat and SOCS box-containing (ASB) protein family are identified and termed as ASB-1, ASB-2, ASB-3, and ASB-4. ASB-4 is a 426 amino acid protein that contains six ANK repeats and one SOCS box domain. ASB-4 is a thought to be a substrate- recognition component of the SCF-like ECS (Elongin-Cullin-SOCS-box protein) E3 ubiquitin-protein ligase complex, which mediates the ubiquitination of target proteins.

REFERENCES

1. Hilton, D.J., et al. 1998. Twenty proteins containing a C-terminal SOCS box form five structural classes. Proc. Natl. Acad. Sci. USA 95: 114-119.
2. Kile, B.T., et al. 2000. Cloning and characterization of the genes encoding the ankyrin repeat and SOCS box-containing proteins Asb-1, Asb-2, Asb-3 and Asb-4. Gene 258: 331-341.
3. Kile, B.T., et al. 2001. Functional analysis of ASB-1 using genetic modification in mice. Mol. Cell. Biol. 21: 6189-6197.
4. Guibal, F.C., et al. 2001. ASB-2 inhibits growth and promotes commitment in myeloid leukemia cells. J. Biol. Chem. 277: 218-224.
5. Kohroki, J., et al. 2001. ATRA-regulated ASB-2 gene induced in differentiation of HL-60 leukemia cells. FEBS Lett. 505: 223-228.
6. Kile, B.T., et al. 2002. The SOCS box: a tale of destruction and degradation. Trends Biochem. Sci. 27: 235-241.
7. Li, J.Y., et al. 2005. Arcuate nucleus transcriptome profiling identifies ankyrin repeat and suppressor of cytokine signalling box-containing protein 4 as a gene regulated by fasting in central nervous system feeding circuits. J. Neuroendocrinol. 17: 394-404.
8. Ferguson, J.E., et al. 2007. ASB4 is a hydroxylation substrate of FIH and promotes vascular differentiation via an oxygen-dependent mechanism. Mol. Cell. Biol. 27: 6407-6419.

CHROMOSOMAL LOCATION

Genetic locus: Asb4 (mouse) mapping to 6 A1.

PRODUCT

ASB-4 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 ASB-4 shRNA Plasmid (m): sc-141291-SH and ASB-4 shRNA (m) Lentiviral Particles: sc-141291-V as alternate gene silencing products.

For independent verification of ASB-4 (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-141291A, sc-141291B and sc-141291C.

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

ASB-4 siRNA (m) is recommended for the inhibition of ASB-4 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 ASB-4 gene expression knockdown using RT-PCR Primer: ASB-4 (m)-PR: sc-141291-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.

PROTOCOLS

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