SANTA CRUZ BIOTECHNOLOGY, INC.

CSDA siRNA (h): sc-38632

BACKGROUND

CSDA (cold shock domain protein A), also known as DBPA, CSDA1 or ZONAB (zonula occludens 1-associated nucleic acid-binding protein), is a 372 amino acid nuclear and cytoplasmic protein that is highly expressed in skeletal muscle and heart. Containing one CSD (cold-shock) domain, CSDA is thought to bind to GM-CSF promoter, full length mRNA and to short RNA sequences containing a specific consensus site. CSDA is suggested to have a role in translation repression and is found in a mRNP complex with MSY2. MSY2 belongs to the Y-box family of multifunctional proteins that regulate both transcription and translation. CSDA participates in promoting cell proliferation and expression of cyclin D1 and proliferating cell nuclear antigen (PCNA). CSDA is regarded to be an important component of the mechanisms that sense epithelial density and in regulating the switch between proliferation and differentiation through complex transcriptional networks.

REFERENCES

1. Penes, M.C., et al. 2005. Expression of zonula occludens-1 (ZO-1) and the transcription factor ZO-1-associated nucleic acid-binding protein (ZONAB)-MSY3 in glial cells and co-localization at oligodendrocyte and astrocyte gap junctions in mouse brain. Eur. J. Neurosci. 22: 404-418.
2. Kavanagh, E., et al. 2006. Functional interaction between the ZO-1-interacting transcription factor ZONAB/DbpA and the RNA processing factor symplekin. J. Cell Sci. 119: 5098-5105.
3. Sourisseau, T., et al. 2006. Regulation of PCNA and cyclin D1 expression and epithelial morphogenesis by the ZO-1-regulated transcription factor ZONAB/DbpA. Mol. Cell. Biol. 26: 2387-2398.
4. Pannequin, J., et al. 2007. Phosphatidylethanol accumulation promotes intestinal hyperplasia by inducing ZONAB-mediated cell density increase in response to chronic ethanol exposure. Mol. Cancer Res. 5: 1147-1157.
5. Li, X., et al. 2008. Ablation of Cx47 in transgenic mice leads to the loss of MUPP1, ZONAB and multiple connexins at oligodendrocyte-astrocyte gap junctions. Eur. J. Neurosci. 28: 1503-1517.
6. Nie, M., et al. 2009. The Y-box factor ZONAB/DbpA associates with GEF-H1/Lfc and mediates Rho-stimulated transcription. EMBO Rep. 10: 1125-1131.

CHROMOSOMAL LOCATION

Genetic locus: YBX3 (human) mapping to 12p13.2.

PRODUCT

CSDA 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see CSDA shRNA Plasmid (h): sc-38632-SH and CSDA shRNA (h) Lentiviral Particles: sc-38632-V as alternate gene silencing products.

For independent verification of CSDA (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-38632A, sc-38632B and sc-38632C.

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

CSDA siRNA (h) is recommended for the inhibition of CSDA 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.

GENE EXPRESSION MONITORING

CSDA (A-2L): sc-130419 is recommended as a control antibody for monitoring of CSDA 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 CSDA gene expression knockdown using RT-PCR Primer: CSDA (h)-PR: sc-38632-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.