



cystatin A siRNA (m): sc-44868

BACKGROUND

Cystatin A (also designated STF1, STFA, stefin A or cystatin AS) and cystatin B (also designated PME, CST6, STFB, CPI-B, stefin B and liver thiol proteinase inhibitor) are thiol protease inhibitors that form complexes with Papain and the cathepsins B, H and L. Cystatin A, a cytoplasmic protein, is one of the precursor proteins of the cornified cell envelope in keratinocytes and plays a role in epidermal development and maintenance. Cystatin B protects against intracellular proteases leaking out of lysosomes and is primarily expressed in heart, liver and kidney.

REFERENCES

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2. Jerala, R., et al. 1988. Cloning a synthetic gene for human stefin B and its expression in *E. coli*. *FEBS Lett.* 239: 41-44.
3. Pennacchio, L.A., et al. 1996. Mutations in the gene encoding cystatin B in progressive myoclonus epilepsy (EPM1). *Science* 271: 1731-1734.
4. Kos, J., et al. 1998. Cysteine proteinases and their endogenous inhibitors: target proteins for prognosis, diagnosis and therapy in cancer. *Oncol. Rep.* 5: 1349-1361.
5. Takahashi, H., et al. 1998. Structure and transcriptional regulation of the human cystatin A gene. The 12-O-tetradecanoylphorbol-13-acetate (TPA) responsive element-2 site (-272 to -278) on cystatin A gene is critical for TPA-dependent regulation. *J. Biol. Chem.* 273: 17375-17380.
6. Takahashi, H., et al. 2001. Expression of human cystatin A by keratinocytes is positively regulated via the Ras/MEK1/MKK7/JNK signal transduction pathway but negatively regulated via the Ras/Raf-1/MEK1/ERK pathway. *J. Biol. Chem.* 276: 36632-36638.
7. Jenko, S., et al. 2004. Different propensity to form amyloid fibrils by two homologous proteins—human stefins A and B: searching for an explanation. *Proteins* 55: 417-425.

CHROMOSOMAL LOCATION

Genetic locus: Csta (mouse) mapping to 16 B3.

PRODUCT

cystatin A 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see cystatin A shRNA Plasmid (m): sc-44868-SH and cystatin A shRNA (m) Lentiviral Particles: sc-44868-V as alternate gene silencing products.

For independent verification of cystatin A (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-44868A, sc-44868B and sc-44868C.

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 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

cystatin A siRNA (m) is recommended for the inhibition of cystatin A 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 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.

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor cystatin A gene expression knockdown using RT-PCR Primer: cystatin A (m)-PR: sc-44868-PR (20 μ l). 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.