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SAP siRNA (h): sc-42972

BACKGROUND

Serum amyloid P (SAP) is a glycoprotein belonging to the pentraxin family of proteins, which has a characteristic pentameric organization and calcium dependent ligand binding. Secreted by liver epithelial cells, SAP is found in serum and urine. Although the function of SAP has not been clearly established, it has been shown to interact with DNA and histones and is thought to play a role in scavenging nuclear material released from damaged circulating cells. Also designated PTX2, SAP is a precursor of the protein amyloid P component (AP), which is universally associated with the amyloid deposits in all forms of amyloidoses, including Alzheimer's disease. SAP is a decamer of 10 identical, noncovalently linked subunits, each of which may be post-translationally modified by glycosylation.

REFERENCES

1. Mantzouranis, E.C., et al. 1985. Human serum amyloid P component. cDNA isolation, complete sequence of pre-serum amyloid P component and localization of the gene to chromosome 1. *J. Biol. Chem.* 260: 7752-7756.
2. Floyd-Smith, G., et al. 1986. The human C-reactive protein gene (CRP) and serum amyloid P component gene (APCS) are located on the proximal long arm of chromosome 1. *Immunogenetics* 24: 171-176.
3. Landsmann, P., et al. 1994. Binding of human serum amyloid P component (hSAP) to human neutrophils. *Eur. J. Biochem.* 223: 805-811.
4. Pepys, M.B., et al. 1994. Human serum amyloid P component is an invariant constituent of amyloid deposits and has a uniquely homogeneous glyco-structure. *Proc. Natl. Acad. Sci. USA* 91: 5602-5606.
5. García de Frutos, P., et al. 1995. Serum amyloid P component binding to C4b-binding protein. *J. Biol. Chem.* 270: 26950-26955.
6. Hohenester, E., et al. 1997. Crystal structure of a decameric complex of human serum amyloid P component with bound dAMP. *J. Mol. Biol.* 269: 570-578.
7. Kiernan, U.A., et al. 2004. Proteomic characterization of novel serum amyloid P component variants from human plasma and urine. *Proteomics* 4: 1825-1829.

CHROMOSOMAL LOCATION

Genetic locus: APCS (human) mapping to 1q23.2.

PRODUCT

SAP 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see SAP shRNA Plasmid (h): sc-42972-SH and SAP shRNA (h) Lentiviral Particles: sc-42972-V as alternate gene silencing products.

For independent verification of SAP (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-42972A, sc-42972B and sc-42972C.

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

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

GENE EXPRESSION MONITORING

SAP (C-11): sc-393948 is recommended as a control antibody for monitoring of SAP 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 SAP gene expression knockdown using RT-PCR Primer: SAP (h)-PR: sc-42972-PR (20 μ l). 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.