

PA28 γ siRNA (h): sc-106344

BACKGROUND

PA28 is an interferon γ (IFN γ) inducible proteasome activator required for presentation of certain major histocompatibility (MHC) class I antigens. PA28 γ , for proteasome activator 28 γ , is also known as REG- γ , Ki nuclear autoantigen and proteasome activator complex subunit 3. PA28 α and PA28 β co-localize in the cell, whereas PA28 γ has a unique distribution. A functional relationship between PA28 γ and the α and β PA28 proteins is unknown. PA28 γ complexed with the proteasome may serve a function other than or in addition to activation, but PA28 γ may also have a proteasome-independent function. The PA28 complex is expressed constitutively in antigen-presenting cells. Downregulation of PA28 results in abnormal proteasome activation and has been implicated in the development of intimal hyperplasia in animal models. The PMSE3 gene maps to chromosome 17q21.31 and encodes the γ -subunit of the proteasome activator PA28.

REFERENCES

1. Tanahashi, N., et al. 1997. Molecular properties of the proteasome activator PA28 family proteins and γ -interferon regulation. *Genes Cells* 2: 195-211.
2. Kohda, K., et al. 1998. Characterization of the mouse PA28 activator complex gene family: complete organizations of the three member genes and a physical map of the approximately 150-kb region containing the α - and β -subunit genes. *J. Immunol.* 160: 4923-4935.
3. Wojcik, C., et al. 1998. Proteasome activator (PA28) subunits, α , β and γ (Ki antigen) in NT2 neuronal precursor cells and HeLa S3 cells. *Eur. J. Cell Biol.* 77: 151-160.
4. Fabunmi, R.P., et al. 2001. Interferon γ regulates accumulation of the proteasome activator PA28 and immunoproteasomes at nuclear PML bodies. *J. Cell Sci.* 114: 29-36.

CHROMOSOMAL LOCATION

Genetic locus: PSME3 (human) mapping to 17q21.31.

PRODUCT

PA28 γ 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 PA28 γ shRNA Plasmid (h): sc-106344-SH and PA28 γ shRNA (h) Lentiviral Particles: sc-106344-V as alternate gene silencing products.

For independent verification of PA28 γ (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-106344A, sc-106344B and sc-106344C.

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.

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

PA28 γ siRNA (h) is recommended for the inhibition of PA28 γ 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

PA28 γ (47): sc-136025 is recommended as a control antibody for monitoring of PA28 γ 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).

RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor PA28 γ gene expression knockdown using RT-PCR Primer: PA28 γ (h)-PR: sc-106344-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.