

Pi16 siRNA (m): sc-152247

BACKGROUND

Pi16 (peptidase inhibitor 16), also known as Cripi (cysteine-rich protease inhibitor), is a 489 amino acid single-pass type I membrane protein that belongs to the CRISP family and CAP superfamily. Members of the CAP superfamily have similar protein structures, resulting in similar CAP domain function, although differences outside this region leads to modified target specificity. Interacting with PSP94, Pi16 is a putative serine protease inhibitor and is upregulated in hypertrophic and failing myocardium. Increased expression of Pi16 may lead to an inhibition of cardiomyocyte growth. Pi16 exists as two alternatively spliced isoforms and is encoded by a gene that maps to mouse chromosome 17 A3.3.

REFERENCES

1. Zambrowicz, B.P., et al. 2003. Wnk1 kinase deficiency lowers blood pressure in mice: a gene-trap screen to identify potential targets for therapeutic intervention. *Proc. Natl. Acad. Sci. USA* 100: 14109-14114.
2. Frost, R.J., et al. 2007. A secretion trap screen in yeast identifies protease inhibitor 16 as a novel antihypertrophic protein secreted from the heart. *Circulation* 116: 1768-1775.
3. Crawford, N.P., et al. 2008. The Diasporin Pathway: a tumor progression-related transcriptional network that predicts breast cancer survival. *Clin. Exp. Metastasis* 25: 357-369.
4. Gibbs, G.M., et al. 2008. The CAP superfamily: cysteine-rich secretory proteins, antigen 5, and pathogenesis-related 1 proteins—roles in reproduction, cancer, and immune defense. *Endocr. Rev.* 29: 865-897.
5. Diez-Roux, G., et al. 2011. A high-resolution anatomical atlas of the transcriptome in the mouse embryo. *PLoS Biol.* 9: e1000582.

CHROMOSOMAL LOCATION

Genetic locus: Pi16 (mouse) mapping to 17 A3.3.

PRODUCT

Pi16 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 Pi16 shRNA Plasmid (m): sc-152247-SH and Pi16 shRNA (m) Lentiviral Particles: sc-152247-V as alternate gene silencing products.

For independent verification of Pi16 (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-152247A, sc-152247B and sc-152247C.

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

Pi16 siRNA (m) is recommended for the inhibition of Pi16 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 Pi16 gene expression knockdown using RT-PCR Primer: Pi16 (m)-PR: sc-152247-PR (20 μ l). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.