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PCGF1 siRNA (m): sc-152107

BACKGROUND

Polycomb group (PCG) proteins form multiprotein complexes that regulate expression patterns of developmental and cell proliferation genes. Several PCG proteins contain ring finger domains and have been identified as a subclass of RING finger proteins. The RING-type zinc finger motif is present in a number of viral and eukaryotic proteins and is made of a conserved cysteine-rich domain that is able to bind two zinc atoms. Proteins that contain the RING-type zinc finger conserved domain are generally involved in the ubiquitination pathway of protein degradation. PCGF1 (polycomb group ring finger 1), also known as NSPC1, RNF68 or RNF3A-2, is a 259 amino acid nuclear protein that is ubiquitously expressed. PCGF1 is a component of the PCG multiprotein BCoR complex, a complex required to maintain the transcriptionally repressive state of some genes, such as Bcl-6 and the cyclin-dependent kinase inhibitor, p21. PCGF1 promotes cell cycle progression and enhances cell proliferation.

REFERENCES

1. Kanno, M., et al. 1995. Mel-18, a Polycomb group-related mammalian gene, encodes a transcriptional negative regulator with tumor suppressive activity. *EMBO J.* 14: 5672-5678.
2. Nunes, M., et al. 2001. NSPc1, a novel mammalian Polycomb gene, is expressed in neural crest-derived structures of the peripheral nervous system. *Mech. Dev.* 102: 219-222.
3. Gong, Y., et al. 2005. NSPc1, a mainly nuclear localized protein of novel PCG family members, has a transcription repression activity related to its PKC phosphorylation site at S183. *FEBS Lett.* 579: 115-121.
4. Gearhart, M.D., et al. 2006. Polycomb group and SCF ubiquitin ligases are found in a novel BCoR complex that is recruited to Bcl-6 targets. *Mol. Cell Biol.* 26: 6880-6889.
5. Gong, Y., et al. 2006. NSPc1 is a cell growth regulator that acts as a transcriptional repressor of p21Waf1/Cip1 via the RARE element. *Nucleic Acids Res.* 34: 6158-6169.

CHROMOSOMAL LOCATION

Genetic locus: Pcgf1 (mouse) mapping to 6 C3.

PRODUCT

PCGF1 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 PCGF1 shRNA Plasmid (m): sc-152107-SH and PCGF1 shRNA (m) Lentiviral Particles: sc-152107-V as alternate gene silencing products.

For independent verification of PCGF1 (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-152107A, sc-152107B and sc-152107C.

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

PCGF1 siRNA (m) is recommended for the inhibition of PCGF1 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.

GENE EXPRESSION MONITORING

PCGF1 (E-8): sc-515371 is recommended as a control antibody for monitoring of PCGF1 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 PCGF1 gene expression knockdown using RT-PCR Primer: PCGF1 (m)-PR: sc-152107-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.