SANTA CRUZ BIOTECHNOLOGY, INC.

PCGF3 siRNA (h): sc-89157

BACKGROUND

Polycomb group (PcG) proteins form multiprotein complexes that regulate expression patterns of developmental and cell proliferation genes. Several members of the PcG contain ring finger domains and are 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. PCGF3 (polycomb group ring finger 3), also known as RNF3, DONG1 or RNF3A, is a 242 amino acid transcriptional regulator that is encoded by a gene located on human chromosome 4, which encodes nearly 6% of the human genome and has the largest gene deserts (regions of the genome with no protein encoding genes) of all of the human chromosomes. PCGF3 exists as two isoforms produced by alternative splicing events.

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. Satijn, D.P., et al. 1997. RING1 is associated with the Polycomb group protein complex and acts as a transcriptional repressor. Mol. Cell. Biol. 17: 4105-4113.
3. Joazeiro, C.A. and Weissman, A.M. 2000. RING finger proteins: mediators of ubiquitin ligase activity. Cell 102: 549-552.
4. Tuckfield, A., et al. 2002. Binding of the RING Polycomb proteins to specific target genes in complex with the grainyhead-like family of developmental transcription factors. Mol. Cell. Biol. 22: 1936-1946.
5. Moore, R. and Boyd, L. 2004. Analysis of RING finger genes required for embryogenesis in *C. elegans*. Genesis 38: 1-12.
6. Yang, Y., et al. 2005. Expression and evaluation of RING finger proteins. Meth. Enzymol. 398: 103-112.
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CHROMOSOMAL LOCATION

Genetic locus: PCGF3 (human) mapping to 4p16.3.

PRODUCT

PCGF3 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 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see PCGF3 shRNA Plasmid (h): sc-89157-SH and PCGF3 shRNA (h) Lentiviral Particles: sc-89157-V as alternate gene silencing products.

For independent verification of PCGF3 (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-89157A, sc-89157B and sc-89157C.

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 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

PCGF3 siRNA (h) is recommended for the inhibition of PCGF3 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 µM in 66 µl. 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 PCGF3 gene expression knockdown using RT-PCR Primer: PCGF3 (h)-PR: sc-89157-PR (20 µl, 378 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Mitra, S., et al. 2018. *Ehrlichia chaffeensis* TRP120 effector targets and recruits host polycomb group proteins for degradation to promote intracellular infection. Infect. Immun. 86: e00845-17.

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.