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SZABO-SCANDIC HandelsgmbH

Quellenstraße 110, A-1100 Wien

T. +43(0)1 489 3961-0

F. +43(0)1 489 3961-7

mail@szabo-scandic.com

www.szabo-scandic.com

linkedin.com/company/szaboscandic

SANTA CRUZ BIOTECHNOLOGY, INC.

SUZ12 siRNA (h): sc-45597

BACKGROUND

The Polycomb group (PcG) genes contribute to the maintenance of cell identity, cell cycle regulation and oncogenesis. The mammalian PcG proteins are regulatory proteins important for Hox gene expression, axial skeleton development, and the control of proliferation and survival of hematopoietic cells. By inducing changes in chromatin structure, the PcG proteins are part of a cellular memory system that is responsible for gene activity being inherited to progeny cells. PcG proteins silence gene expression through the formation of multimeric protein complexes with different compositions. Manipulating the expression-levels of various PcG proteins in mammalian cell lines results in cellular transformation, which may be a link between the chromatin-associated PcG proteins and cancer. Polycomb protein SUZ12, also designated ChET 9 protein or joined-to-JAZF1 protein, is a nuclear protein belonging to the VEFS (VRN2-EMF2-FIS2-SUZ12) family. SUZ12 has been detected at the breakpoints of a certain recurrent chromosomal translocation which has been reported in endometrial stromal sarcoma. It is a component of the PRC2 complex, composed of EED, EZH2, SUZ12/JJAZ1, RBBP4 and RBBP7.

REFERENCES

1. Weinmann, A.S., et al. 2001. Use of chromatin immunoprecipitation to clone novel E2F target promoters. Mol. Cell. Biol. 21: 6820-6832.
2. Koontz, J.I., et al. 2001. Frequent fusion of the JAZF1 and JJAZ1 genes in endometrial stromal tumors. Proc. Natl. Acad. Sci. USA 98: 6348-6353.
3. Cao, R., et al. 2002. Role of Histone H3 lysine 27 methylation in Polycomb-group silencing. Science 298: 1039-1043.

CHROMOSOMAL LOCATION

Genetic locus: SUZ12 (human) mapping to 17q11.2.

PRODUCT

SUZ12 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 SUZ12 shRNA Plasmid (h): sc-45597-SH and SUZ12 shRNA (h) Lentiviral Particles: sc-45597-V as alternate gene silencing products.

For independent verification of SUZ12 (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-45597A, sc-45597B and sc-45597C.

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

SUZ12 siRNA (h) is recommended for the inhibition of SUZ12 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.

GENE EXPRESSION MONITORING

SUZ12 (D-10): sc-271325 is recommended as a control antibody for monitoring of SUZ12 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-IgGκ BP-HRP: sc-516102 or m-IgGκ 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-IgGκ BP-FITC: sc-516140 or m-IgGκ 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 SUZ12 gene expression knockdown using RT-PCR Primer: SUZ12 (h)-PR: sc-45597-PR (20 µl, 575 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Zhang, R., et al. 2020. EZH2 inhibitors-mediated epigenetic reactivation of FOSB inhibits triple-negative breast cancer progress. Cancer Cell Int. 20: 175.

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.