SANTA CRUZ BIOTECHNOLOGY, INC.

Su[fu] siRNA (h): sc-36572

BACKGROUND

Su[fu] (for suppressor-of-fused) is a key negative regulator in the vertebrate hedgehog signaling pathway. Su[fu] interacts with genes encoding proteins in this signal transduction pathway. In *Drosophila,* Intracellular transduction of the hedgehog pathway involves the release of a large complex containing Su[fu]. Su[fu] inhibits the activity of the transcription factor Gli1 and interacts with Gli2, Gli3 and the serine/threonine kinase fused. Su[fu] is widely expressed in adult and embryonic tissues with higher expression in tissues patterned by hegdehog signaling. The Su[fu] gene locus maps to a region that is deleted in glioblastomas, prostate cancer, malignant melanoma and endometrial cancer.

REFERENCES

1. Ruiz i Altaba, A. 1997. Catching a Gli-mpse of hedgehog. Cell 90: 193-196.
2. Monnier, V., et al. 1998. Suppressor of fused links fused and *Cubitus interruptus* on the hedgehog signalling pathway. Curr. Biol. 8: 583-586.
3. Pearse, R.V., 2nd., et al. 1999. Vertebrate homologs of *Drosophila* suppressor of fused interact with the Gli family of transcriptional regulators. Dev. Biol. 212: 323-336.
4. Methot, N., et al. 1999. Hedgehog controls limb development by regulating the activities of distinct transcriptional activator and repressor forms of *Cubitus interruptus.* Cell 96: 819-831.
5. Kogerman, P., et al. 1999. Mammalian suppressor-of-fused modulates nuclear-cytoplasmic shuttling of Gli-1. Nat. Cell Biol. 1: 312-319.

CHROMOSOMAL LOCATION

Genetic locus: SUFU (human) mapping to 10q24.32.

PRODUCT

Su[fu] 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 Su[fu] shRNA Plasmid (h): sc-36572-SH and Su[fu] shRNA (h) Lentiviral Particles: sc-36572-V as alternate gene silencing products.

For independent verification of Su[fu] (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-36572A, sc-36572B and sc-36572C.

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

Su[fu] siRNA (h) is recommended for the inhibition of Su[fu] 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

Su[fu] (F-4): sc-137014 is recommended as a control antibody for monitoring of Su[fu] 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 Su[fu] gene expression knockdown using RT-PCR Primer: Su[fu] (h)-PR: sc-36572-PR (20 µl, 518 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Kim, B.R., et al. 2020. RUNX3 suppresses metastasis and stemness by inhibiting Hedgehog signaling in colorectal cancer. Cell Death Differ. 27: 676-694.
2. Zhang, F., et al. 2021. Reregulation of hepatic stellate cell contraction and cirrhotic portal hypertension by Wnt/β-catenin signaling via interaction with Gli1. Br. J. Pharmacol. 178: 378-380.

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.