SANTA CRUZ BIOTECHNOLOGY, INC.

Dcun1D1 siRNA (h): sc-61498

BACKGROUND

Dcun1D1, (defective in cullin neddylation protein 1-like protein 1 or DCN1-like protein 1), also designated Rp42, Tes3 or squamous cell carcinoma-related oncogene (SCCRO) is involved in the malignant transformation of squamous cell lineage. Dcun1D1 regulates Gli1, a key regulator of the hedgehog (HH) pathway that plays an important role in development, maintenance, and regeneration of almost all adult tissues. Vascular endothelial growth factor-A (VEGF-A) is co-expressed with Dcun1D1, and the two function to induce angiogenesis. Overexpression of the Dcun1D1 gene is associated with invasive tumor progression and a poor outcome in non-small cell lung cancer, and low-level Dcun1D1 expression in adjacent benign lung tissue predicts an even worse survival rate. Dcun1D1 expression may be a marker of progressive dedifferentiation in squamous cell tumors.

REFERENCES

1. Estilo, C.L., et al. 2003. The role of novel oncogenes squamous cell carcinoma-related oncogene and phosphatidylinositol 3-kinase p110α in squamous cell carcinoma of the oral tongue. Clin. Cancer Res. 9: 2300-2306.
2. Lum, L., et al. 2004. The Hedgehog response network: sensors, switches, and routers. Science 304: 1755-1759.
3. Sarkaria, I.S., et al. 2004. SCCRO expression correlates with invasive progression in bronchioloalveolar carcinoma. Ann. Thorac. Surg. 78: 1734-1741.
4. Sarkaria, I.S., et al. 2004. Squamous cell carcinoma-related oncogene is highly expressed in developing, normal, and adenomatous adrenal tissue but not in aggressive adrenocortical carcinomas. Surgery 136: 1122-1128.
5. Talbot, S.G., et al. 2004. Squamous cell carcinoma related oncogene regulates angiogenesis through vascular endothelial growth factor-A. Ann. Surg. Oncol. 11: 530-534.
6. Kurz, T., et al. 2005. The conserved protein DCN-1/Dcn1p is required for cullin neddylation in *C. elegans* and *S. cerevisiae*. Nature 435: 1257-1261.

CHROMOSOMAL LOCATION

Genetic locus: DCUN1D1 (human) mapping to 3q26.33.

PRODUCT

Dcun1D1 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 Dcun1D1 shRNA Plasmid (h): sc-61498-SH and Dcun1D1 shRNA (h) Lentiviral Particles: sc-61498-V as alternate gene silencing products.

For independent verification of Dcun1D1 (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-61498A, sc-61498B and sc-61498C.

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 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

Dcun1D1 siRNA (h) is recommended for the inhibition of Dcun1D1 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

Dcun1D1 (3E1): sc-81835 is recommended as a control antibody for monitoring of Dcun1D1 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 Dcun1D1 gene expression knockdown using RT-PCR Primer: Dcun1D1 (h)-PR: sc-61498-PR (20 µl). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

RESEARCH USE

For research use only, not for use in diagnostic procedures.