SANTA CRUZ BIOTECHNOLOGY, INC.

LRIG1 siRNA (h): sc-60966

BACKGROUND

Leucine-rich repeats and immunoglobulin-like domains protein 1, also designated LIG1 or LRIG1, interacts with the epidermal growth factor (EGF) receptor family of receptor tyrosine kinases. LRIG1 is a single-pass, type I membrane protein with an ectodomain containing 15 leucine-rich repeats which is sometimes cleaved into N-terminal and C-terminal fragments. LRIG1 is produced in all human glioma cell lines and localizes to perinuclear compartments, cytoplasmic compartments and the cell surface. It acts as a negative feedback regulator of signaling through enhanced receptor ubiquitination and accelerated intracellular degradation. LRIG1 may function as a tumor suppressor since it downregulates the expression of EGF and the related proteins ErbB-2, ErbB-3 and ErbB-4, which all inhibit cancer cells from growth, migration and invasion.

REFERENCES

1. Hedman, H., et al. 2002. Is LRIG1 a tumour suppressor gene at chromosome 3p14.3? Acta Oncol. 41: 352-354.
2. Nilsson, J., et al. 2003. LRIG1 protein in human cells and tissues. Cell Tissue Res. 312: 65-71.
3. Thomasson, M., et al. 2003. LRIG1 and epidermal growth factor receptor in renal cell carcinoma: a quantitative RT-PCR and immunohistochemical analysis. Br. J. Cancer 89: 1285-1289.
4. Laederich, M.B., et al. 2004. The leucine-rich repeat protein LRIG1 is a negative regulator of ErbB family receptor tyrosine kinases. J. Biol. Chem. 279: 47050-47056.

CHROMOSOMAL LOCATION

Genetic locus: LRIG1 (human) mapping to 3p14.1.

PRODUCT

LRIG1 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 LRIG1 shRNA Plasmid (h): sc-60966-SH and LRIG1 shRNA (h) Lentiviral Particles: sc-60966-V as alternate gene silencing products.

For independent verification of LRIG1 (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-60966A, sc-60966B and sc-60966C.

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

LRIG1 siRNA (h) is recommended for the inhibition of LRIG1 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

LRIG1 (B-2): sc-514577 is recommended as a control antibody for monitoring of LRIG1 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 LRIG1 gene expression knockdown using RT-PCR Primer: LRIG1 (h)-PR: sc-60966-PR (20 µl, 585 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. He, X.Y., et al. 2013. Gambogic acid induces EGFR degradation and Akt/mTORC1 inhibition through AMPK dependent-LRIG1 upregulation in cultured U87 glioma cells. Biochem. Biophys. Res. Commun. 435: 397-402.

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.