

Laminin-R siRNA (h): sc-35789

BACKGROUND

Laminin receptor (Laminin-R) has a heterodimeric structure similar to that of receptors for other extracellular matrix proteins such as Fibronectin and Vitronectin. Incorporation of Laminin-R into lysosomal membranes makes it possible for lysosomes to attach to surfaces coated with Laminin. This and other properties identify Laminin-R as a member of the integrin family of cell adhesion receptors. The Laminin-R precursor is a polypeptide whose expression is consistently upregulated in aggressive carcinoma. The precursor, which is also identified as p40 ribosome-associated protein, appears to be a multifunctional protein involved in the translational machinery. Laminin-R (also known as colon carcinoma laminin-binding protein) and is found at nine-fold higher levels in colon carcinoma than in adjacent normal colonic epithelium. Additionally, the level of the Laminin-R is higher in the lung cancer cell line than in the lung cell line.

REFERENCES

1. Gehlsen, K.R., et al. 1988. The human Laminin receptor is a member of the integrin family of cell adhesion receptors. *Science* 241: 1228-1229.
2. Yow, H.K., et al. 1988. Increased mRNA expression of a Laminin-binding protein in human colon carcinoma: complete sequence of a full-length cDNA encoding the protein. *Proc. Nat. Acad. Sci. USA* 85: 6394-6398.
3. Bignon, C., et al. 1991. Genomic analysis of the 67 kDa Laminin receptor in normal and pathological tissues: circumstantial evidence for retroposon features. *Genomics* 10: 481-485.
4. Satoh, K., et al. 1992. Cloning of 67 kDa Laminin receptor cDNA and gene expression in normal and malignant cell lines of the human lung. *Cancer Lett.* 62: 199-203.
5. Jackers, P., et al. 1996. Isolation from a multigene family of the active human gene of the metastasis-associated multifunctional protein 37LRP/p40 at chromosome 3p21.3. *Oncogene* 13: 495-503.

CHROMOSOMAL LOCATION

Genetic locus: RPSA (human) mapping to 3p22.1.

PRODUCT

Laminin-R 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 μ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Laminin-R shRNA Plasmid (h): sc-35789-SH and Laminin-R shRNA (h) Lentiviral Particles: sc-35789-V as alternate gene silencing products.

For independent verification of Laminin-R (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-35789A, sc-35789B and sc-35789C.

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 μ l of the RNase-free water provided. Resuspension of the siRNA duplex in 330 μ l of RNase-free water makes a 10 μ M solution in a 10 μ M Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

Laminin-R siRNA (h) is recommended for the inhibition of Laminin-R 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 μ M in 66 μ l. 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

Laminin-R (H-2): sc-74515 is recommended as a control antibody for monitoring of Laminin-R 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-IgG κ BP-HRP: sc-516102 or m-IgG κ 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-IgG κ BP-FITC: sc-516140 or m-IgG κ 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 Laminin-R gene expression knockdown using RT-PCR Primer: Laminin-R (h)-PR: sc-35789-PR (20 μ l, 343 bp). Annealing temperature for the primers should be 55-60° C and the extension temperature should be 68-72° C.

SELECT PRODUCT CITATIONS

1. Islam, K., et al. 2021. Role of laminin and cognate receptors in cholangiocarcinoma cell migration. *Cell Adh. Migr.* 15: 152-165.

RESEARCH USE

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