

Integrin α 8 siRNA (h): sc-35688

BACKGROUND

Integrins are heterodimers composed of noncovalently associated transmembrane α and β subunits. In addition to mediating cell adhesion and cytoskeletal organization, integrins function as signaling receptors. Signals transduced by integrins play a role in many biological processes, including cell growth, differentiation, migration and apoptosis. Integrin α 8 is expressed in contractile interstitial cells and smooth muscle cells and is upregulated in lung injury. Integrin α 8 is also a marker for smooth muscle cells, expressed as early as α smooth muscle actin. The Integrin α 8 chain is expressed in the glomerulus exclusively by mesangial cells and may play an important role for maintaining tissue integrity in the glomerulus during glomerular injury.

REFERENCES

1. Hynes, R.O. 1992. Integrins: versatility, modulation, and signaling in cell adhesion. *Cell* 69: 11-25.
2. Clark, E.A. and Brugge, J.S. 1995. Integrins and signal transduction pathways: the road taken. *Science* 268: 233-239.
3. Sheppard, D. 1996. Epithelial integrins. *Bioessays* 18: 655-660.
4. Juliano, R. 1996. Cooperation between soluble factors and integrin-mediated cell anchorage in the control of cell growth and differentiation. *Bioessays* 18: 911-917.
5. Wagner, T.E., et al. 2003. Expression of the Integrin subunit α 8 in murine lung development. *J. Histochem. Cytochem.* 51: 1307-1315.
6. Bieritz, B., et al. 2003. Role of α 8 Integrin in mesangial cell adhesion, migration, and proliferation. *Kidney Int.* 64: 119-127.

CHROMOSOMAL LOCATION

Genetic locus: ITGA8 (human) mapping to 10p13.

PRODUCT

Integrin α 8 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 Integrin α 8 shRNA Plasmid (h): sc-35688-SH and Integrin α 8 shRNA (h) Lentiviral Particles: sc-35688-V as alternate gene silencing products.

For independent verification of Integrin α 8 (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-35688A, sc-35688B and sc-35688C.

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

Integrin α 8 siRNA (h) is recommended for the inhibition of Integrin α 8 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

Integrin α 8 (F-11): sc-365798 is recommended as a control antibody for monitoring of Integrin α 8 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 Integrin α 8 gene expression knockdown using RT-PCR Primer: Integrin α 8 (h)-PR: sc-35688-PR (20 μ l, 539 bp). 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.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.