

# Integrin $\alpha$ X siRNA (h): sc-35695

## BACKGROUND

Integrin  $\alpha$ X (CD11C, leukocyte surface antigen p150,95, CR4, Axb2) is a type 1 transmembrane protein that traditionally combines with  $\beta$ 2 chain to form a leukocyte-specific integrin known as inactivated-C3b (iC3b) receptor 4 (CR4). Integrin  $\alpha$ X/ $\beta$ 2 shares similar properties of the  $\alpha$ M/ $\beta$ 2 Integrin in mediating adherence of neutrophils and monocytes to stimulated endothelial cells, and in phagocytosis of complement coated particles. Abnormal expression of Integrin  $\alpha$ X is characteristic of hairy cell leukemia (HCL) and is dependent upon activation of proto-oncogenes Ras and JunD. Proteins and DNA elements that influence transcription of Integrin  $\alpha$ X include Sp1 and Sp1-like factors, AP-1 family, C/EBP, Oct-2 and PU.1. Integrin  $\alpha$ X is present on monocyte derivative dendritic cells (DCs), macrophages and NK cells. Upon activation, DCs present in skin (Langerhans cells), lining of nose, lung, stomach, intestine and blood can migrate to lymphoid tissues and interact with T and B cells to initiate and shape the immune response.

## REFERENCES

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- Langelegen, H., et al. 2002. Human umbilical vein endothelial cells express complement receptor 1 (CD35) and complement receptor 4 (CD11C/CD18) *in vitro*. *Inflammation* 26: 103-110.
- Nicolaou, F., et al. 2003. CD11C gene expression in hairy cell leukemia is dependent upon activation of the proto-oncogenes Ras and JunD. *Blood* 101: 4033-4041.
- Edwards, A.D., et al. 2003. Relationships among murine CD11C (high) dendritic cell subsets as revealed by baseline gene expression patterns. *J. Immunol.* 171: 47-60.
- Paharkova-Vatchkova, V., et al. 2004. Estrogen preferentially promotes the differentiation of CD11C<sup>+</sup> CD11B (intermediate) dendritic cells from bone marrow precursors. *J. Immunol.* 172: 1426-1436.

## CHROMOSOMAL LOCATION

Genetic locus: ITGAX (human) mapping to 16p11.2.

## PRODUCT

Integrin  $\alpha$ X 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  $\mu$ M solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see Integrin  $\alpha$ X shRNA Plasmid (h): sc-35695-SH and Integrin  $\alpha$ X shRNA (h) Lentiviral Particles: sc-35695-V as alternate gene silencing products.

For independent verification of Integrin  $\alpha$ X (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-35695A, sc-35695B and sc-35695C.

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

## APPLICATIONS

Integrin  $\alpha$ X siRNA (h) is recommended for the inhibition of Integrin  $\alpha$ X 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  $\mu$ M in 66  $\mu$ 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  $\alpha$ X (B-6): sc-46676 is recommended as a control antibody for monitoring of Integrin  $\alpha$ X 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 $\kappa$  BP-HRP: sc-516102 or m-IgG $\kappa$  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 $\kappa$  BP-FITC: sc-516140 or m-IgG $\kappa$  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  $\alpha$ X gene expression knockdown using RT-PCR Primer: Integrin  $\alpha$ X (h)-PR: sc-35695-PR (20  $\mu$ l). 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](http://www.scbt.com) for detailed protocols and support products.