

# Integrin $\alpha$ M siRNA (m): sc-35693

## BACKGROUND

Integrin  $\alpha$ M (also designated complement component receptor-3  $\alpha$ , CD11b (p170), macrophage antigen  $\alpha$  polypeptide, cell surface glycoprotein Mac-1  $\alpha$  subunit, MAC1A, MO1A and ITGAM) is a cell adhesion molecule that acts as a receptor for cell surface ligands such as intracellular adhesion molecules (ICAMs) or soluble ligands. Integrins are heterodimeric proteins that contain an  $\alpha$  chain and  $\beta$  chain. Integrin  $\alpha$ M combines with the Integrin  $\beta$ 2 to form a leukocyte-specific integrin, referred to as macrophage receptor 1 (Mac-1), or inactivated-C3b (iC3b) receptor 3 (CR3). Integrin  $\alpha$ M/ $\beta$ 2 is important in the adherence of neutrophils and monocytes to stimulated endothelium, and also in the phagocytosis of complement coated particles.

## REFERENCES

- Nathan, C., et al. 1990. Tumor necrosis factor and CD11/CD18 ( $\beta$ 2) Integrins act synergistically to lower cAMP in human neutrophils. *J. Cell Biol.* 111: 2171-2181.
- Li, R., et al. 1995. A peptide derived from the intercellular adhesion molecule-2 regulates the avidity of the leukocyte integrins CD11b/CD18 and CD11c/CD18. *J. Cell Biol.* 129: 1143-1153.
- Nueda, A., et al. 1995. Hematopoietic cell-type-dependent regulation of leukocyte integrin functional activity: CD11b and CD11c expression inhibits LFA-1-dependent aggregation of differentiated U-937 cells. *Cell. Immunol.* 164: 163-169.
- Walzog, B., et al. 1995. The leukocyte integrin Mac-1 (CD11b/CD18) contributes to binding of human granulocytes to collagen. *Exp. Cell Res.* 218: 28-38.

## CHROMOSOMAL LOCATION

Genetic locus: Itgam (mouse) mapping to 7 F3.

## PRODUCT

Integrin  $\alpha$ M siRNA (m) 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  $\alpha$ M shRNA Plasmid (m): sc-35693-SH and Integrin  $\alpha$ M shRNA (m) Lentiviral Particles: sc-35693-V as alternate gene silencing products.

For independent verification of Integrin  $\alpha$ M (m) gene silencing results, we also provide the individual siRNA duplex components. Each is available as 3.3 nmol of lyophilized siRNA. These include: sc-35693A, sc-35693B and sc-35693C.

## STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at  $-20^{\circ}$  C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at  $-20^{\circ}$  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  $\alpha$ M siRNA (m) is recommended for the inhibition of Integrin  $\alpha$ M expression in mouse 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  $\alpha$ M (2LPM19c): sc-20050 is recommended as a control antibody for monitoring of Integrin  $\alpha$ M 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## RT-PCR REAGENTS

Semi-quantitative RT-PCR may be performed to monitor Integrin  $\alpha$ M gene expression knockdown using RT-PCR Primer: Integrin  $\alpha$ M (m)-PR: sc-35693-PR (20  $\mu$ l, 562 bp). Annealing temperature for the primers should be 55-60 $^{\circ}$  C and the extension temperature should be 68-72 $^{\circ}$  C.

## SELECT PRODUCT CITATIONS

- Fu, H., et al. 2012. Complement component C3 and complement receptor type 3 contribute to the phagocytosis and clearance of fibrillar A $\beta$  by microglia. *Glia* 60: 993-1003.

## 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.