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Antibody to Mac-1 (CD11b)
MOUSE MONOCLONAL (IgG₁)

Catalog Number: AB-N06
Quantity: 100 micrograms
Format: PBS (0.14 M Sodium Chloride; 0.003 M Potassium Chloride; 0.002 M Potassium Phosphate; 0.01 M Sodium Phosphate; pH 7.4), no preservative. Sterile-filtered.
Host: Mouse
Isotype: IgG₁
Clone: CD11b
Immunogen: rat neutrophils

Background:

CD11b is an alpha subunit of Mac-1, also known as CR3. CD11b is the receptor for the C3bi fragment of complement. This receptor is involved in bacterial phagocytosis. A reduction in neutrophil CD11b expression after severe traumatic injury correlates with increased septic complications. CD11b is a component of integrins, important for adhesion of neutrophils to surfaces. Mac-1 exists as a chemoattractant activation-dependent molecule that undergoes a conformational change upon stimulation. Expression of new epitopes on Mac-1 can be detected after activation by specific reporter monoclonal antibodies. Until stimulation occurs, Mac-1 remains in a resting, non-adhesive state. Activation of Mac-1 may play a role during neutrophil recruitment to the inflamed site.

Specificity and Preparation:

This antibody recognizes rat Mac-1 (CD11b). The hybridoma was formed by the fusion of mouse myeloma line NS-1 with splenocytes from mice immunized with rat neutrophils. The antibody is routinely tested by flow cytometry.

Usage and Storage:

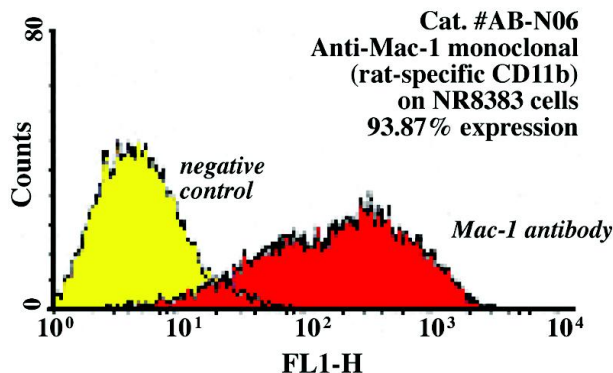
Applications include flow cytometry (saturating concentration)^{3,4,5} and targeting (targeting agent in Mac-1-SAP, Cat. #IT-33). Store the antibody at -20°C for one year. Avoid repeated freezing and thawing. Gently spin down material before use; 5-10 seconds in a microfuge should be adequate.

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References:

1. Domico LM, Cooper KR, Bernard LP, Zeevalk GD (2007) Reactive oxygen species generation by the ethylene-bis-dithiocarbamate (EBDC) fungicide mancozeb and its contribution to neuronal toxicity in mesencephalic cells. *Neurotoxicology* 28:1079-1091.
2. Zhao P, Waxman SG, Hains BC (2007) Extracellular signal-regulated kinase-regulated microglia-neuron signaling by prostaglandin E2 contributes to pain after spinal cord injury. *J Neurosci* 27:2357-2368.
3. Sitrin RG, Todd RF 3rd, Albrecht E, Gyetko MR. (1996) The urokinase receptor (CD87) facilitates CD11b/CD18-mediated adhesion of human monocytes. *J Clin Invest* 97(8):1942-1951.
4. Worth RG, Mayo-Bond L, van de Winkel JG, Todd RF 3rd, Petty HR. (1996) CR3 (alphaM beta2; CD11b/CD18) restores IgG-dependent phagocytosis in transfectants expressing a phagocytosis-defective Fc gammaRIIA (CD32) tail-minus mutant. *J Immunol* 157(12):5660-5665.

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NR8383 cells, rat macrophage cells, were used for a flow cytometry analysis with the Mac-1 (CD11b) antibody that binds the rat Mac-1 alpha subunit (CD11b). Cells were treated with anti-Mac-1 (Lot #14-134) at a 1:50 dilution and subsequently with anti-murine IgG FITC. A 94% shift is seen as compared to the non-treated control.