

1A-340-T100

Monoclonal Antibody to CD18 Allophycocyanin (APC) conjugated (100 tests)

Clone: MEM-148 Isotype: Mouse IqG1

Specificity: The antibody MEM-148 recognizes an epitope on CD18 which is essentially

> inaccessible in intact integrin molecules on resting leukocytes, but is exposed on high-affinity state of LFA-1 or on unassociated CD18. CD18 (integrin beta2 subunit; beta2 integrin) is a 90-95 kDa type I transmembrane protein expressed on

all leukocytes.

HLDA VI; WS Code AS A052

Regulatory Status: RUO

Peripheral blood mononuclear cells Immunogen:

Species Reactivity: Human **Negative Species:** Porcine

Preparation: The purified antibody is conjugated with cross-linked Allophycocyanin (APC) under

optimum conditions. The conjugate is purified by size-exclusion chromatography

and adjusted for direct use. No reconstitution is necessary.

Storage Buffer: The reagent is provided in stabilizing phosphate buffered saline (PBS) solution

containing 15mM sodium azide.

Storage / Stability: Store in the dark at 2-8°C. Do not freeze. Avoid prolonged exposure to light. Do not

use after expiration date stamped on vial label.

The reagent is designed for Flow Cytometry analysis of human blood cells using 10 μ l reagent / 100 μ l of whole blood or 10 6 cells in a suspension. Usage:

The content of a vial (1 ml) is sufficient for 100 tests.

Expiration: See vial label Lot Number: See vial label

Background: CD18, integrin beta2 subunit, forms heterodimers with four types of CD11

molecule to constitute leukocyte (beta2) integrins: alphaLbeta2 (CD11a/CD18, LFA-1), alphaMbeta2 (CD11b/CD18, Mac-1, CR3), alphaXbeta2 (CD11c/CD18) and alphaDbeta2 (CD11d/CD18). In most cases, the response mediated by the integrin is a composite of the functions of its individual subunits. These integrins are essential for proper leukocyte migration, mediating intercellular contacts. Absence of CD18 leads to leukocyte adhesion deficiency-1; severe reduction of CD18 expression leads to the development of a psoriasiform skin disease. CD18 is also a target of Mannheimia (Pasteurella) haemolytica leukotoxin and is sufficient

to mediate leukotoxin-mediated cytolysis.



PRODUCT DATA SHEET

References:

*Gao JX, Issekutz AC: Mac-1 (CD11b/CD18) is the predominant beta 2 (CD18) integrin mediating human neutrophil migration through synovial and dermal fibroblast barriers. Immunology. 1996 Jul;88(3):463-70.

*Shang XZ, Issekutz AC: Contribution of CD11a/CD18, CD11b/CD18, ICAM-1 (CD54) and -2 (CD102) to human monocyte migration through endothelium and connective tissue fibroblast barriers. Eur J Immunol. 1998 Jun;28(6):1970-9.

*Kess D, Peters T, Zamek J, Wickenhauser C, Tawadros S, Loser K, Varga G, Grabbe S, Nischt R, Sunderkötter C, Müller W, Krieg T, Scharffetter-Kochanek K: CD4+ T cell-associated pathophysiology critically depends on CD18 gene dose effects in a murine model of psoriasis. J Immunol. 2003 Dec 1;171(11):5697-706. *Solovjov DA, Pluskota E, Plow EF: Distinct roles for the alpha and beta subunits in the functions of integrin alphaMbeta? J Biol Chem 2005 Jan

in the functions of integrin alphaMbeta2. J Biol Chem. 2005 Jan 14;280(2):1336-45.

*Peters T, Sindrilaru A, Wang H, Oreshkova T, Renkl AC, Kess D, Scharffetter-Kochanek K: CD18 in monogenic and polygenic inflammatory processes of the skin. J Investig Dermatol Symp Proc. 2006 Sep;11(1):7-15.

*Dassanayake RP, Maheswaran SK, Srikumaran S: Monomeric expression of bovine beta2-integrin subunits reveals their role in Mannheimia haemolytica leukotoxin-induced biological effects. Infect Immun. 2007 Oct;75(10):5004-10.

*Leukocyte Typing VI., Kishimoto T. et al. (Eds.), Garland Publishing Inc. (1997).

*Drbal K, Angelisova P, Cerny J, Pavlistova D, Cebecauer M, Novak P, Horejsi V: Human leukocytes contain a large pool of free forms of CD18. Biochem Biophys Res Commun. 2000 Aug 28;275(2):295-9.

*Drbal K, Angelisova P, Cerny J, Hilgert I, Horejsi V: A novel anti-CD18 mAb recognizes an activation-related epitope and induces a high-affinity conformation in leukocyte integrins. Immunobiology. 2001 May;203(4):687-98.

*Drbal K, Angelisova P, Hilgert I, Cerny J, Novak P, Horejsi V: A proteolytically truncated form of free CD18, the common chain of leukocyte integrins, as a novel marker of activated myeloid cells. Blood. 2001 Sep 1;98(5):1561-6.

*Aubert M, Yoon M, Śloan DD, Spear PG, Jerome KR: The virological synapse facilitates herpes simplex virus entry into T cells. J Virol. 2009 Jun;83(12):6171-83. *Kanderova V, Kuzilkova D, Stuchly J, Vaskova M, Brdicka T, Fiser K, Hrusak O, Lund-Johansen F, Kalina T: High-resolution Antibody Array Analysis of Childhood Acute Leukemia Cells. Mol Cell Proteomics. 2016 Apr;15(4):1246-61.

*Osicka R, Osickova A, Hasan S, Bumba L, Cerny J, Sebo P: Bordetella adenylate cyclase toxin is a unique ligand of the integrin complement receptor 3. Elife. 2015 Dec 9;4:e10766.

*Machacek C, Supper V, Leksa V, Mitulovic G, Spittler A, Drbal K, Suchanek M, Ohradanova-Repic A, Stockinger H: Folate Receptor β Regulates Integrin CD11b/CD18 Adhesion of a Macrophage Subset to Collagen. J Immunol. 2016 Sep 15;197(6):2229-38.

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