

## TECHNICAL DATA SHEET

### CyFlow™ CD18 Low Endotoxin Anti-Hu; Clone MEM-48

**REF** CW596095

**For Research Use Only.**

**Not for use in diagnostic or therapeutic procedures.**

### Specifications

|                                    |                                                          |
|------------------------------------|----------------------------------------------------------|
| <b>Antigen</b>                     | CD18                                                     |
| <b>Alternative Names</b>           | b2 integrin                                              |
| <b>Clone</b>                       | MEM-48                                                   |
| <b>Clonality</b>                   | monoclonal                                               |
| <b>Format</b>                      | Low Endotoxin                                            |
| <b>Host / Isotype</b>              | Mouse / IgG1                                             |
| <b>Species Reactivity</b>          | Human                                                    |
| <b>Negative Species Reactivity</b> | Dog                                                      |
| <b>Quantity [Concentration]</b>    | 0.1 mg [ 1 mg/ml ]                                       |
| <b>Immunogen</b>                   | Leukocytes of a patient suffering from LGL-type Leukemia |

### Specificity

The mouse monoclonal antibody MEM-48 recognizes an epitope involving residues 534-546 in cysteine-rich repeat 3 of the CD18 antigen. CD18 is a 90-95 kDa type I transmembrane protein expressed on all leukocytes.

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## Application

Based on published sources, this antibody is suitable for the following applications:

- Flow cytometry
- Immunoprecipitation
- Western blot
- Immunohistochemistry
- Functional assays

## Storage Buffer

The reagent is provided in azide-free phosphate buffered saline (PBS) solution, pH ≈7.4; 0.2 µm filter sterilized. Endotoxin level is less than 0.01 EU/µg of the protein, as determined by the LAL test.

## Storage and Stability

|                  |                                                                               |
|------------------|-------------------------------------------------------------------------------|
| <b>Storage</b>   | Avoid prolonged exposure to light. Store in the dark at 2-8°C. Do not freeze. |
| <b>Stability</b> | Do not use after expiration date stamped on vial label.                       |

## Background Information

CD18 (integrin β2 subunit) forms heterodimers with four types of CD11 molecule to constitute leukocyte (β2) integrins: αLβ2 (CD11a/CD18, LFA-1), αMβ2 (CD11b/CD18, Mac-1, CR3), αXβ2 (CD11c/CD18) and αDβ2 (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.

## References

- Persson H, Hennighausen L, Taub R, DeGrado W, Leder P: Antibodies to human c-myc oncogene product: evidence of an evolutionarily conserved protein induced during cell proliferation. Science. 1984 Aug 17; 225(4663):687-93. < PMID: 6431612 >
- Bazil V, Stefanova I, Hilgert I, Kristofova H, Vanek S, Horejsi V: Monoclonal antibodies against human leucocyte antigens (IV): Antibodies against subunits of the LFA-1 (CD11a/CD18) leucocyte-adhesion glycoprotein. Folia Biol (Praha). 1990; 36(1):41-50. < PMID: 1971601 >

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- Larson RS, Springer TA: Structure and function of leukocyte integrins. Immunol Rev. 1990 Apr; 114:181-217. < PMID: 2196220 >
- Stefanova I, Horejsi V: Association of the CD59 and CD55 cell surface glycoproteins with other membrane molecules. J Immunol. 1991 Sep 1; 147(5):1587-92. < PMID: 1715364 >
- Schiff DE, Rae J, Martin TR, Davis BH, Curnutte JT: Increased phagocyte Fc gammaRI expression and improved Fc gamma-receptor-mediated phagocytosis after in vivo recombinant human interferon-gamma treatment of normal human subjects. Blood. 1997 Oct 15; 90(8):3187-94. < PMID: 9376602 >
- Gannon GA, Rhind SG, Suzui M, Zamecnik J, Sabiston BH, Shek PN, Shephard RJ: beta-Endorphin and natural killer cell cytolytic activity during prolonged exercise: Is there a connection?. Am J Physiol. 1998 Dec; 275(6-2):R1725-34. < PMID: 9843861 >
- Ottonello L, Epstein AL, Dapino P, Barbera P, Morone P, Dallegri F: Monoclonal Lym-1 antibody-dependent cytotoxicity by neutrophils exposed to granulocyte-macrophage colony-stimulating factor: intervention of Fc gammaRII (CD32), CD11b-CD18 integrins, and CD66b glycoproteins. Blood. 1999 May 15; 93(10):3505-11. < PMID: 10233903 >
- Garnotel R, Rittié L, Poitevin S, Monboisse JC, Nguyen P, Potron G, Maquart FX, Randoux A, Gilleron P: Human blood monocytes interact with type I collagen through alpha x beta 2 integrin (CD11c-CD18, gp150-95). J Immunol. 2000 Jun 1; 164(11):5928-34. < PMID: 10820275 >
- Solovey AN, Gui L, Chang L, Enenstein J, Browne PV, Hebbel RP: Identification and functional assessment of endothelial P1H12. J Lab Clin Med. 2001 Nov; 138(5):322-31. < PMID: 11709656 >
- Dao MA, Arevalo J, Nolta JA: Reversibility of CD34 expression on human hematopoietic stem cells that retain the capacity for secondary reconstitution. Blood. 2003 Jan 1; 101(1):112-8. < PMID: 12589631 >
- Kerstan A, Hünig T: Cutting edge: distinct TCR- and CD28-derived signals regulate CD95L, Bcl-xL, and the survival of primary T cells. J Immunol. 2004 Feb 1; 172(3):1341-5. < PMID: 14734708 >
- Shan M, Klasse PJ, Banerjee K, Dey AK, Iyer SP, Dionisio R, Charles D, Campbell-Gardener L, Olson WC, Sanders RW, Moore JP: HIV-1 gp120 mannoses induce immunosuppressive responses from dendritic cells. PLoS Pathog. 2007 Nov; 3(11):e169. < PMID: 17983270 >
- Kuttruff S, Koch S, Kelp A, Pawelec G, Rammensee HG, Steinle A: NKp80 defines and stimulates a reactive subset of CD8 T cells. Blood. 2009 Jan 8; 113(2):358-69. < PMID: 18922855 >

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The Safety Data Sheet for this product is available at [www.sysmex-partec.com/services](http://www.sysmex-partec.com/services).

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