

## TECHNICAL DATA SHEET

### CyFlow™ CD18 PE Anti-Hu; Clone MEM-48

**REF** AM438717

---

**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>	PE
<b>Host / Isotype</b>	Mouse / IgG1
<b>Species Reactivity</b>	Human
<b>Negative Species Reactivity</b>	Dog
<b>Quantity</b>	100 tests
<b>Immunogen</b>	Leukocytes of a patient suffering from LGL-type Leukemia

---

#### Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany  
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: [info@sysmex-partec.com](mailto:info@sysmex-partec.com)

## 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.

## Application

The reagent is designed for Flow Cytometry analysis of human blood cells. Recommended usage is 20  $\mu$ l reagent / 100  $\mu$ l of whole blood or  $10^6$  cells in a suspension. The content of a vial (2 ml) is sufficient for 100 tests.

Other usages may be determined from the scientific literature.

## Storage Buffer

The reagent is provided in stabilizing phosphate buffered saline (PBS) solution, pH  $\approx$ 7.4, containing 0.1% (w/v) sodium azide.

## 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  $\beta$ 2 subunit) forms heterodimers with four types of CD11 molecule to constitute leukocyte ( $\beta$ 2) integrins:  $\alpha$ L $\beta$ 2 (CD11a/CD18, LFA-1),  $\alpha$ M $\beta$ 2 (CD11b/CD18, Mac-1, CR3),  $\alpha$ X $\beta$ 2 (CD11c/CD18) and  $\alpha$ D $\beta$ 2 (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.

---

### Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany  
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: [info@sysmex-partec.com](mailto:info@sysmex-partec.com)

## 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 >
- 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, Gillery 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, Enestein 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, Nolte 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 >

---

### Contact Information:

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany  
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: [info@sysmex-partec.com](mailto:info@sysmex-partec.com)



- 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 >

---

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

---

---

**Contact Information:**

Sysmex Partec GmbH • Am Flugplatz 13 • 02828 Görlitz • Germany  
Tel +49 3581 8746 0 • Fax +49 3581 8746 70 • E-mail: [info@sysmex-partec.com](mailto:info@sysmex-partec.com)