

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD58/LFA-3 in direct ELISAs and Western blots.
Source	Monoclonal Mouse IgG _{2B} Clone # 248310
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD58/LFA-3 Phe29-Arg215 Accession # P19256
Conjugate	Alexa Fluor 594 Excitation Wavelength: 590 nm Emission Wavelength: 617 nm
Formulation	Supplied 0.2 mg/mL in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details. *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Flow Cytometry	0.25-1 µg/10 ⁶ cells	Human whole blood monocytes

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Protect from light. Do not freeze. ● 12 months from date of receipt, 2 to 8 °C as supplied.

BACKGROUND

T cells require a signal induced by the engagement of the T cell receptor and a "co-stimulatory" signal(s) through distinct T cell surface molecules for optimal T cell expansion and activation. Many cell-bound receptor-ligand pairs have now been shown to be involved in T cell co-stimulation including CD58/CD2 in humans and CD48/CD2 in mice and rats. CD58, also known as lymphocyte function-associated antigen (LFA-3), is a 210 amino acid protein that belongs to the CD2 family of the immunoglobulin superfamily (1). CD58 is widely expressed on hematopoietic and non-hematopoietic human tissue and has been found on leukocytes, erythrocytes, endothelial cells, epithelial cells and fibroblasts of human origin (2). No mouse or rat homolog of CD58 has as of yet been identified. CD58 has only one known ligand, CD2. CD2 is expressed on T cells, NK cells and dendritic cells (2-4). CD2 ligation by CD58 has been shown to mediate T cell adhesion, T cell activation, T cell cytokine production and T cell and NK cells cytotoxic activity (1, 3, 5, 6). In dendritic cells, CD2 engagement increases MHC Class II, CD40, CD80, CD86, CD58 and CCR7 and induces IL-1β and IL-12 cytokine secretion (4).

References:

1. Davis, S.J. and P.A. van der Merwe (1996) *Immunol. Today* **17**:177.
2. Smith, M.E. and J.A. Thomas (1990) *J. Clin. Pathol.* **43**:893.
3. Bolhuis, R.L. Roozmond, R.C. and R.J. van de Griend (1986) *J. Immunol.* **136**:3939.
4. Crawford, K. *et al.* (2003) *Blood* **102**:1745.
5. Kanner, S.B. *et al.* (1992) *J. Immunol.* **148**:2023.
6. Bullens, M.A. *et al.* (2001) *International Immunol.* **12**:181.

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