

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CD58/LFA-3 in direct ELISAs and Western blots.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CD58/LFA-3 Phe29-Arg215 Accession # P19256
Endotoxin Level	<0.10 EU per 1 µg of the antibody by the LAL method.
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

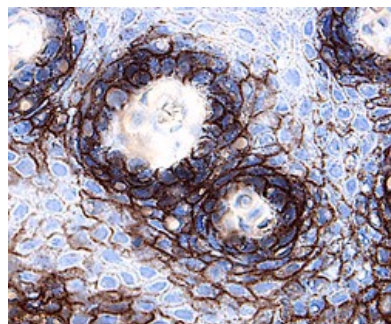
APPLICATIONS

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
Western Blot	0.1 µg/mL	Recombinant Human CD58/LFA-3 (Catalog # 1689-CD)
Immunohistochemistry	5-15 µg/mL	See Below
Neutralization	Measured by its ability to neutralize CD58/LFA-3-induced proliferation in the human CD3 ⁺ T cells. Bierer, B.E. <i>et al.</i> (1988) J. Immunol. 140 :3358. The Neutralization Dose (ND ₅₀) is typically 3-12 µg/mL in the presence of 0.2 µg/well Recombinant Human CD58/LFA-3 and 2 ng/well Mouse Anti-Human CD3 Monoclonal Antibody OKT3.	

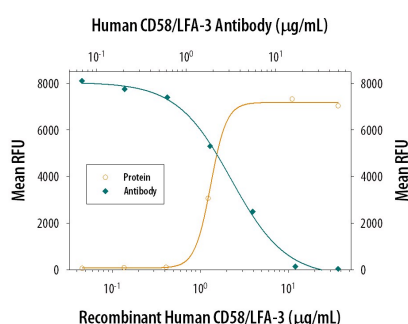
DATA

Immunohistochemistry



CD58/LFA-3 in Human Tonsil. CD58/LFA-3 was detected in immersion fixed paraffin-embedded sections of human tonsil using 15 µg/mL Goat Anti-Human CD58/LFA-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1689) overnight at 4 °C. Tissue was stained with the Anti-Goat HRP-DAB Cell & Tissue Staining Kit (brown; Catalog # CTS008) and counterstained with hematoxylin (blue). Specific labeling was localized to the plasma membrane of lymphocytes in lymphatic nodules. View our protocol for [Chromogenic IHC Staining of Paraffin-embedded Tissue Sections](#).

Neutralization



Cell Proliferation Induced by CD58/LFA-3 and Neutralization by Human CD58/LFA-3 Antibody. Recombinant Human CD58/LFA-3 (Catalog # [1689-CD](#)) stimulates proliferation in the human CD3⁺ T cells in a dose-dependent manner (orange line). Proliferation elicited by Recombinant Human CD58/LFA-3 (0.2 µg/well) is neutralized (green line) by increasing concentrations of Goat Anti-Human CD58/LFA-3 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1689). The ND₅₀ is typically 3-12 µg/mL in the presence of Mouse Anti-Human CD3 Monoclonal Antibody OKT3 (2 ng/well).

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. 12 months from date of receipt, -20 to -70 °C as supplied. 1 month, 2 to 8 °C under sterile conditions after reconstitution. 6 months, -20 to -70 °C under sterile conditions after reconstitution.

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-1 β 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.