Human Endocan/ESM-1 Antibody

Antigen Affinity-purified Polyclonal Goat IgG
Catalog Number: AF1810

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human Endocan in direct ELISAs and Western blots. In direct ELISAs and Western blots, approximately 20% cross-reactivity with recombinant mouse Endocan is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human Endocan/ESM-1 Trp20-Arg184 Accession # Q9NQ30
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.

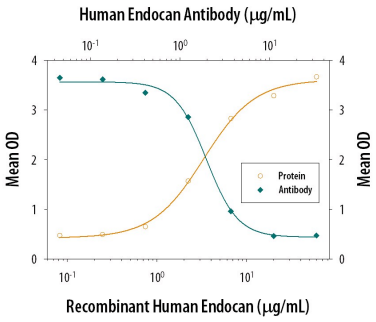
APPLICATIONS

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 Endocan/ESM-1 (Catalog # 1810-EC)
Neutralization	Measured by its ability to neutralize Endocan/ESM-1-mediated adhesion of the Jurkat human acute T cell leukemia cell line. The Neutralization Dose (ND_{50}) is typically 1-4 µg/mL in the presence of 20 µg/mL Recombinant Human Endocan/ESM-1.	

DATA

Neutralization



Cell Adhesion Mediated by Endocan/ESM-1 and Neutralization by Human Endocan/ESM-1 Antibody. Recombinant Human Endocan/ESM-1 (Catalog # 1810-EC), immobilized onto a microplate, supports the adhesion of the Jurkat human acute T cell leukemia cell line in a dose-dependent manner (orange line). Adhesion elicited by Recombinant Human Endocan/ESM-1 (20 µg/mL) is neutralized (green line) by increasing concentrations of Goat Anti-Human Endocan/ESM-1 Antigen Affinity-purified Polyclonal Antibody (Catalog # AF1810). The ND_{50} is typically 1-4 µg/mL.

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 from date of receipt, 2 to 8 °C, reconstituted. ● 6 months from date of receipt, -20 to -70 °C, reconstituted.

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BACKGROUND

Endocan, also known as endothelial-cell specific molecule-1 (ESM-1), is a secreted cysteine-rich dermatan sulfate (DS) proteoglycan primarily expressed by endothelial cells within the vascular capillary network in kidney and in the alveolar walls of the lung (1). Endocan expression has also been detected in different epithelia and in adipocytes (2, 3). The expression of endocan is upregulated by TNF-α, IL-1β, or lipopolysaccharide and down-regulated by IFN-γ (1). The human Endocan gene encodes a 184 amino acid (aa) residues precursor protein with a 19 aa hydrophobic signal peptide and a 165 aa mature region with 18 Cysteine residues (1). The DS chain is covalently attached to serine 137 (4). Endocan has been shown to bind CD11a/CD18 integrin (also known as lymphocyte function-associated antigen-1, LFA-1) on human lymphocytes, monocytes and Jurkat cells, inhibiting its binding to ICAM-1 and reducing LFA-1-mediated leukocyte activation (5). Endocan binds via its DS chain to hepatocyte growth factor (HGF) to enhance HGF mitogenic activity (3, 6). Genetically engineered cells overexpressing endocan has been shown to induce tumor formation, suggesting that Endocan may be involved in the pathophysiology of tumor growth *in vivo* (3, 6). Circulating Endocan can be detected in the serum from healthy subjects. In patients with lung cancer or acute and severe sepsis, elevated Endocan concentrations have been reported (2, 6).

References:

1. Lassalle, P. *et al.* (1996) J. Biol. Chem. **271**:20458.
2. Bechard, D. *et al.* (2000) J. Vasc. Res. **37**:417.
3. Wellner, M. *et al.* (2003) Horm. Metab. Res. **35**:217.
4. Bechard, D. *et al.* (2001) J. Biol. Chem. **276**:48341.
5. Bechard, D. *et al.* (2001) J. Immunol. **167**:3099
6. Scherpereel, A. *et al.* (2003) Cancer Res. **63**:6084.