

DESCRIPTION

Species Reactivity	Human
Specificity	Detects human CEACAM-1 in ELISAs and Western blots. In ELISAs and Western blots, no cross-reactivity with recombinant human (rh) CD31, rhICAM-1, -2, -3, recombinant mouse MAdCAM-1, or rhVCAM-1 was observed. In sandwich ELISAs, no cross-reactivity with
Source	Monoclonal Mouse IgG ₁ Clone # 283324
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human CEACAM-1 Gln35-Gly428 Accession # P13688
Conjugate	Alexa Fluor 700 Excitation Wavelength: 675-700 nm Emission Wavelength: 723 nm
Formulation	Supplied 0.2mg/ml in 1X PBS with RDF1 and 0.09% Sodium Azide
*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.

ELISA Capture (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
ELISA Detection (Matched Antibody Pair)	Optimal dilution of this antibody should be experimentally determined.
Western Blot	Optimal dilution of this antibody should be experimentally determined.
Immunohistochemistry	Optimal dilution of this antibody should be experimentally determined.

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

Carcinoembryonic antigen (CEA)-related cell adhesion molecule 1 (CEACAM-1; also called BGP and designated CD66a) is a 160 kDa member of the CEACAM branch of the CEA gene family of the immunoglobulin superfamily (1-3). It is one of seven human CEACAM subfamily genes that are essentially divided equally between type I transmembrane proteins (CEACAM-1, 3, and 4) and GPI-linked molecules (CEACAM-5-8). There is no CEACAM-2 in human. The gene for human CEACAM-1 codes for a 526 amino acid (aa) type I transmembrane protein that contains a 34 aa signal sequence, a 394 aa extracellular domain (ECD), a 24 aa transmembrane segment, and a 74 aa cytoplasmic region (4, 5). The ECD contains one N-terminal V-type Ig-like domain, followed by three C2-type Ig-like domains. It shows considerable glycosylation, including high mannose residues and (sialyl) Lewis^x (1). The cytoplasmic region shows one ITIM motif and a calmodulin binding site (1-3). In addition to the full length form, ten alternate splice forms have been reported (1, 4, 6-8). There are three soluble and seven transmembrane isoforms, with variations occurring in both the ECD and cytoplasmic region. All ten alternate splice forms contain the V-type Ig-like domain (aa's 35-142). The three soluble forms also contain the first two C2-type Ig-like domains (aa's 145-317), with differences coming in the third C2-type Ig-like domain (6). The seven transmembrane isoforms are highly divergent. Five of the seven contain the V-type plus the first two C2-type domains and then diverge considerably both in the ECD and cytoplasmic region. The remaining two contain only the V-type Ig-like domain, the transmembrane region, and either a full-length or truncated cytoplasmic tail (1, 8). The actual functions of the isoforms are unclear. Full-length mouse and rat CEACAM-1 are approximately 57% aa identical to human CEACAM-1; in the V-type Ig-like domain, they are 58% and 56% aa identical, respectively. The full-length molecule is found on neutrophils, bile duct epithelium, activated NK cells, colonic columnar epithelium and endothelium. It is known to act as an intercellular adhesion molecule, forming both homotypic, and heterotypic bonds with CEA and CEACAM-6/NCA (3, 9). On neutrophils, CEACAM-1 also binds to dendritic cell CD-SIGN via its Le^x moiety, inducing dendritic cell maturation and a subsequent Th1-type response (10,11).

PRODUCT SPECIFIC NOTICES

This product is provided under an agreement between Life Technologies Corporation and R&D Systems, Inc., and the manufacture, use, sale or import of this product is subject to one or more US patents and corresponding non-US equivalents, owned by Life Technologies Corporation and its affiliates. The purchase of this product conveys to the buyer the non-transferable right to use the purchased amount of the product and components of the product only in research conducted by the buyer (whether the buyer is an academic or for-profit entity). The sale of this product is expressly conditioned on the buyer not using the product or its components (1) in manufacturing; (2) to provide a service, information, or data to an unaffiliated third party for payment; (3) for therapeutic, diagnostic or prophylactic purposes; (4) to resell, sell, or otherwise transfer this product or its components to any third party, or for any other commercial purpose. Life Technologies Corporation will not assert a claim against the buyer of the infringement of the above patents based on the manufacture, use or sale of a commercial product developed in research by the buyer in which this product or its components was employed, provided that neither this product nor any of its components was used in the manufacture of such product. For information on purchasing a license to this product for purposes other than research, contact Life Technologies Corporation, Cell Analysis Business Unit, Business Development, 29851 Willow Creek Road, Eugene, OR 97402, Tel: (541) 465-8300. Fax: (541) 335-0354.