Recombinant CEACAM1/CD66a Monoclonal Antibody

catalog number: AN300535P

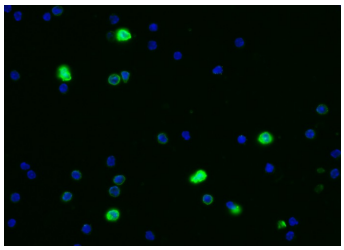
Note: *Centrifuge before opening to ensure complete recovery of vial contents.*

Description

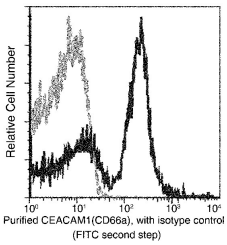
Reactivity	Mouse
Immunogen	Recombinant Mouse CEACAM1/CD66a Protein
Host	Rabbit
Isotype	IgG
Clone	B465
Purification	Protein A
Buffer	0.2 μm filtered solution in PBS

Applications	Recommended Dilution
ICC/IF	1:20-1:100
FCM	1:25-1:100

Data



Immunofluorescence analysis of Mouse CEACAM1 in mouse splenocytes. Cells were fixed with 4% PFA, blocked with 10% serum, and incubated with rabbit anti-mouse CEACAM1 monoclonal antibody (1:60) at 4°C overnight. Then cells were stained with the Alexa Fluor® 488-conjugated Goat Anti-rabbit IgG secondary antibody (green) and counterstained with DAPI (blue).



Flow cytometric analysis of Mouse CEACAM1(CD66a) expression on BABL/c splenocytes. Cells were stained with purified anti-Mouse CEACAM1(CD66a), then a FITC-conjugated second step antibody. The fluorescence histograms were derived from gated events with the forward and side light-scatter characteristics of intact cells.

Preparation & Storage

Storage	This antibody can be stored at 2°C-8°C for one month without detectable loss of activity. Antibody products are stable for twelve months from date of receipt when stored at -20°C to -80°C. Preservative-Free. Avoid repeated freeze-thaw cycles.
Shipping	Ice bag

Background

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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. 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. 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) LewisX. The cytoplasmic region shows one ITIM motif and a calmodulin binding site. In addition to the full length form, ten alternate splice forms have been reported. 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. 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. 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. On neutrophils, CEACAM-1 also binds to dendritic cell CD-SIGN via its LeX moiety, inducing dendritic cell maturation and a subsequent Th1-type response.

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