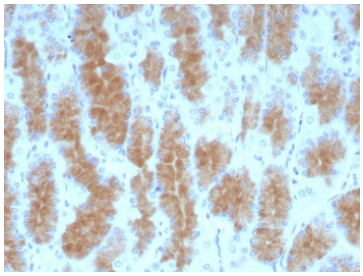
CEACAM1 Antibody / Biliary glycoprotein 1 / BGP-1 [clone CEACAM1/4840] (V4631)

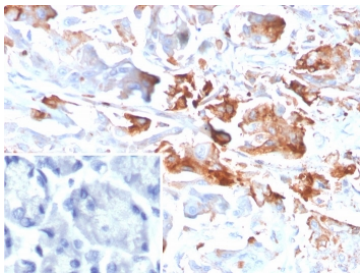
Catalog No.	Formulation	Size
V4631-100UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	100 ug
V4631-20UG	0.2 mg/ml in 1X PBS with 0.1 mg/ml BSA (US sourced), 0.05% sodium azide	20 ug
V4631SAF-100UG	1 mg/ml in 1X PBS; BSA free, sodium azide free	100 ug

Bulk quote request

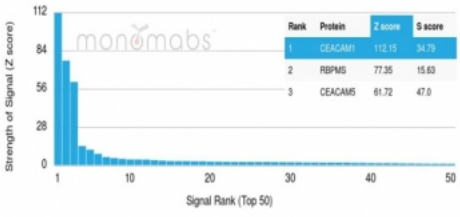
Availability	1-3 business days
Species Reactivity	Human
Format	Purified
Host	Mouse
Clonality	Monoclonal (mouse origin)
Isotype	Mouse IgG2a, kappa
Clone Name	CEACAM1/4840
Purity	Protein A/G affinity
UniProt	P13688
Localization	Secreted, Cell membrane
Applications	Immunohistochemistry (FFPE) : 1-2ug/ml for 30 min at RT
Limitations	This CEACAM1 antibody is available for research use only.



Immunohistochemistry analysis of CEACAM1 antibody in human stomach tissue. FFPE human gastric mucosa shows strong membranous and apical HRP-DAB brown staining in glandular epithelial cells lining the gastric glands, consistent with CEACAM1, also known as Biliary glycoprotein 1, localization at the luminal surface. Stromal cells demonstrate minimal background staining. Heat induced epitope retrieval was performed by boiling tissue sections in pH 9 10 mM Tris with 1 mM EDTA for 20 minutes followed by cooling prior to staining.



IHC staining of FFPE human stomach tissue with CEACAM1 antibody (clone CEACAM1/4840). Inset: PBS used in place of primary Ab (secondary Ab negative control). HIER: boil tissue sections in pH 9 10mM Tris with 1mM EDTA for 20 min and allow to cool before testing.



Analysis of a HuProt(TM) microarray containing more than 19,000 full-length human proteins using CEACAM1 antibody (clone CEACAM1/4840). Z- and S- Score: The Z-score represents the strength of a signal that a monoclonal antibody (in combination with a fluorescently-tagged anti-IgG secondary antibody) produces when binding to a particular protein on the HuProt(TM) array. Z-scores are described in units of standard deviations (SD's) above the mean value of all signals generated on that array. If targets on HuProt(TM) are arranged in descending order of the Z-score, the S-score is the difference (also in units of SD's) between the Z-score. S-score therefore represents the relative target specificity of a mAb to its intended target. A mAb is considered to specific to its intended target, if the mAb has an S-score of at least 2.5. For example, if a mAb binds to protein X with a Z-score of 43 and to protein Y with a Z-score of 14, then the S-score for the binding of that mAb to protein X is equal to 29.

Description

CEACAM1 antibody, also known as Biliary glycoprotein 1 antibody, recognizes Carcinoembryonic antigen-related cell adhesion molecule 1, a type I transmembrane glycoprotein encoded by the CEACAM1 gene and commonly referred to as CD66a and BGP-1. CEACAM1 is a member of the carcinoembryonic antigen-related cell adhesion molecule family within the immunoglobulin superfamily and is primarily localized to the plasma membrane of epithelial and immune cells. It is expressed in liver, biliary epithelium, intestine, prostate, and mammary gland, as well as in subsets of activated T cells, B cells, and natural killer cells, supporting epithelial organization and immune regulation.

CEACAM1 antibody detects a protein composed of extracellular immunoglobulin-like domains, a single transmembrane region, and alternatively spliced cytoplasmic tails. Long cytoplasmic isoforms contain immunoreceptor tyrosine-based inhibitory motifs that recruit phosphatases and regulate downstream signaling pathways controlling proliferation, differentiation, and apoptosis. Short isoforms lack these motifs and display altered regulatory capacity. In polarized epithelial tissues, Biliary glycoprotein 1 is enriched at apical and lateral membranes, contributing to maintenance of glandular architecture and barrier integrity while integrating adhesion-dependent signaling events.

Beyond its structural role, CEACAM1 functions as a signaling receptor in immune cells. Frequently referred to as CD66a in immunophenotyping contexts, CEACAM1 can act as a co-inhibitory receptor that modulates T cell activation, tolerance, and inflammatory responses. Through these mechanisms, CEACAM1 participates in immune homeostasis and tumor-immune interactions. Several bacterial and viral pathogens utilize CEACAM family members as host receptors, underscoring the importance of Biliary glycoprotein 1 in host-pathogen interaction studies and mucosal immunity research.

Altered CEACAM1 expression has been reported in colorectal carcinoma, hepatocellular carcinoma, breast cancer, melanoma, and prostate cancer. In certain epithelial malignancies, reduced expression correlates with decreased cell adhesion and increased invasiveness, while in other tumor types elevated CEACAM1 levels are associated with tumor progression and immune modulation. These context-dependent findings highlight the relevance of CEACAM1 antibody for evaluating membrane protein expression in normal tissue biology and disease-associated models.

The CEACAM1 antibody (clone CEACAM1/4840) is suitable for detecting Biliary glycoprotein 1 expression in research applications. This Biliary glycoprotein 1 antibody supports investigation of adhesion molecule dynamics, isoform-specific

signaling differences, and tumor-associated changes in CEACAM1 expression.

Application Notes

Optimal dilution of the CEACAM1 antibody should be determined by the researcher.

Immunogen

A recombinant partial protein sequence (within amino acids 50-250) from the human protein was used as the immunogen for the CEACAM1 antibody.

Storage

Aliquot the CEACAM1 antibody and store frozen at -20oC or colder. Avoid repeated freeze-thaw cycles.