

Rabbit anti-Human CEACAM Polyclonal Antibody | anti-CEACAM1 antibody

CEACAM Antibody (N-term)

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA285413	Rabbit	Human	Flow Cytometry, Functional Assay, Immunohistochemistry, ELISA, Western Blot

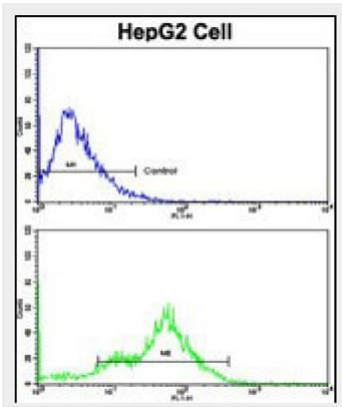
PRODUCT SYNONYMS

CEACAM; Polyclonal Antibody; CEACAM Antibody (N-term); Carcinoembryonic antigen-related cell adhesion molecule 1; Biliary glycoprotein 1; BGP-1; CD66a; CEACAM1; BGP; BGP1; anti-CEACAM1 antibody

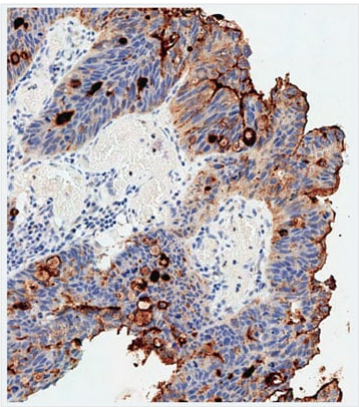
PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human
Clonality	Polyclonal
Isotype	Rabbit Ig
Specificity	This CEACAM antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 50-77 amino acids from the N-terminal region of human CEACAM.
Purity/Purification	Purified Rabbit Polyclonal Antibody (Pab)
Form/Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Sequence Positions	50-77
Sequence Length	368
Applicable Applications for anti-CEACAM1 antibody	FCM/FACS (Flow Cytometry), IHC (Immunohistochemistry), ELISA, WB (Western Blot)

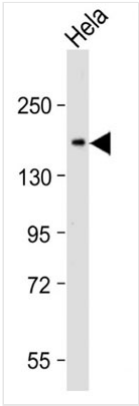
Function	[Isoform 1]: Cell adhesion protein that mediates homophilic cell adhesion in a calcium-independent manner (By similarity). Plays a role as coinhibitory receptor in immune response, insulin action and functions also as an activator during angiogenesis (PubMed: , PubMed: , PubMed:). Its coinhibitory receptor function is phosphorylation- and PTPN6 -dependent, which in turn, suppress signal transduction of associated receptors by dephosphorylation of their downstream effectors. Plays a role in immune response, of T cells, natural killer (NK) and neutrophils (PubMed: , PubMed:). Upon TCR/CD3 complex stimulation, inhibits TCR-mediated cytotoxicity by blocking granule exocytosis by mediating homophilic binding to adjacent cells, allowing interaction with and phosphorylation by LCK and interaction with the TCR/CD3 complex which recruits PTPN6 resulting in dephosphorylation of CD247 and ZAP70 (PubMed:). Also inhibits T cell proliferation and cytokine production through inhibition of JNK cascade and plays a crucial role in regulating autoimmunity and anti-tumor immunity by inhibiting T cell through its interaction with HAVCR2 (PubMed:). Upon natural killer (NK) cells activation, inhibit KLRK1-mediated cytolysis of CEACAM1-bearing tumor cells by trans-homophilic interactions with CEACAM1 on the target cell and lead to cis-interaction between CEACAM1 and KLRK1, allowing PTPN6 recruitment and then VAV1 dephosphorylation (PubMed:23696226). Upon neutrophils activation negatively regulates IL1B production by recruiting PTPN6 to a SYK-TLR4-CEACAM1 complex, that dephosphorylates SYK, reducing the production of reactive oxygen species (ROS) and lysosome disruption, which in turn, reduces the activity of the inflammasome. Downregulates neutrophil production by acting as a coinhibitory receptor for CSF3R by downregulating the CSF3R-STAT3 pathway through recruitment of PTPN6 that dephosphorylates CSF3R (By similarity). Also regulates insulin action by promoting INS clearance and regulating lipogenesis in liver through regulating insulin signaling (By similarity). Upon INS stimulation, undergoes phosphorylation by INSR leading to INS clearance by increasing receptor-mediated insulin endocytosis. This internalization promotes interaction with FASN leading to receptor-mediated insulin degradation and to reduction of FASN activity leading to negative regulation of fatty acid synthesis. INSR-mediated phosphorylation also provokes a down-regulation of cell proliferation through SHC1 interaction resulting in decrease coupling of SHC1 to the MAPK3/ERK1-MAPK1/ERK2 and phosphatidylinositol 3-kinase pathways (By similarity). Functions as activator in angiogenesis by promoting blood vessel remodeling through endothelial cell differentiation and migration and in arteriogenesis by increasing the number of collateral arteries and collateral vessel calibers after ischemia. Also regulates vascular permeability through the VEGFR2 signaling pathway resulting in control of nitric oxide production (By similarity). Downregulates cell growth in response to EGF through its interaction with SHC1 that mediates interaction with EGFR resulting in decrease coupling of SHC1 to the MAPK3/ERK1-MAPK1/ERK2 pathway (By similarity). Negatively regulates platelet aggregation by decreasing platelet adhesion on type I collagen through the GPVI-FcRgamma complex (By similarity). Inhibits cell migration and cell scattering through interaction with FLNA; interferes with the interaction of FLNA with RALA (PubMed:). Mediates bile acid transport activity in a phosphorylation dependent manner (By similarity). Negatively regulates osteoclastogenesis (By similarity).
Cellular Location	[Isoform 1]: Cell membrane {ECO:0000250 UniProtKB:P16573}; Single-pass type I membrane protein {ECO:0000250 UniProtKB:P16573}. Lateral cell membrane {ECO:0000250 UniProtKB:P16573}. Apical cell membrane {ECO:0000250 UniProtKB:P16573}. Basal cell membrane {ECO:0000250 UniProtKB:P16573}. Cell junction. Cell junction, adherens junction {ECO:0000250 UniProtKB:P16573}. Note=Canalicular domain of hepatocyte plasma membranes. Found as a mixture of monomer, dimer and oligomer in the plasma membrane. Occurs predominantly as cis-dimers and/or small cis-oligomers in the cell junction regions. Found as dimer in the solution. Predominantly localized to the lateral cell membranes {ECO:0000250 UniProtKB:P16573} [Isoform3]: Secreted [Isoform 5]: Cell membrane; Single-pass type I membrane protein [Isoform 7]: Cell membrane; Single-pass type I membrane protein Cell projection, microvillus membrane {ECO:0000250 UniProtKB:P31809}; Single-pass type I membrane protein. Apical cell membrane; Single-pass type I membrane protein. Note=Localized to the apical glycocalyx surface (PubMed:10436421). Colocalizes with CEACAM20 at the apical brush border of intestinal cells {ECO:0000250 UniProtKB:P31809, ECO:0000269 PubMed:10436421}
Tissue Location	Expressed in columnar epithelial cells of the colon (at protein level) (PubMed:10436421). The predominant forms expressed by T cells are those containing a long cytoplasmic domain (PubMed:18424730). Expressed in granulocytes and lymphocytes Leukocytes only express isoforms 6 and isoform 1 (PubMed:11994468)
Preparation and Storage	Maintain refrigerated at 2-8 degree C for up to 2 weeks. For long term storage store at -20 degree C in small aliquots to prevent freeze-thaw cycles.



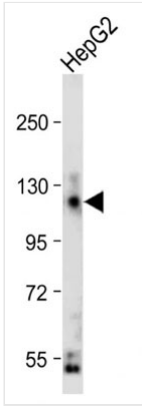
FCM/FACS (Flow Cytometry)
Flow cytometric analysis of HepG2 cells using CEACAM Antibody (N-term)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.



IHC (Immunohistochemistry)
Immunohistochemical analysis of paraffin-embedded Human colon carcinoma tissue using AP7364a performed on the Leica® BOND RXm. Tissue was fixed with formaldehyde at room temperature, antigen retrieval was by heat mediation with a EDTA buffer (pH9. 0). Samples were incubated with primary antibody(1:500) for 1 hours at room temperature. A undiluted biotinylated CRF Anti-Polyvalent HRP Polymer antibody was used as the secondary antibody.



WB (Western Blot)
Anti-CEACAM Antibody (N-term) at 1:2000 dilution + HeLa whole cell lysate Lysates/proteins at 20 ug per lane.Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution.Predicted band size : 58 kDaBlocking/Dilution buffer: 5% NFDm/TBST.



WB (Western Blot)
Anti-CEACAM Antibody (N-term) at 1:2000 dilution + HepG2 whole cell lysate Lysates/proteins at 20 ug per lane.Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution.Predicted band size : 58 kDaBlocking/Dilution buffer: 5% NFDm/TBST.

ADDITIONAL INFORMATION

Related Product Information for anti-CEACAM1 antibody	CEACAM is a member of the carcinoembryonic antigen (CEA) family, which belongs to the immunoglobulin superfamily. The protein was originally described in bile ducts of liver as biliary glycoprotein. Subsequently, it was found to be a cell-cell adhesion molecule detected on leukocytes, epithelia, and endothelia. The protein mediates cell adhesion via homophilic as well as heterophilic binding to other proteins of the subgroup. Multiple cellular activities have been attributed to the protein, including roles in the differentiation and arrangement of tissue three-dimensional structure, angiogenesis, apoptosis, tumor suppression, metastasis, and the modulation of innate and adaptive immune responses.
Product Categories/Family for anti-CEACAM1 antibody	Cancer; Immunology; Microbiology
References	Gambichler,T., Am. J. Clin. Pathol. 131 (6), 782-787 (2009) Li,C., Exp. Cell Res. 315 (7), 1225-1233 (2009) Nouvion,A.L., Med Sci (Paris) 25 (3), 247-252 (2009)

NCBI AND UNIPROT INFORMATION

NCBI GI #	68161541
NCBI GeneID	634

NCBI Accession #	NP_001020083.1; NP_001171742.1; NP_001171744.1; NP_001171745.1; NP_001192273.1; NP_001703.2
NCBI GenBank Nucleotide #	NM_001024912.2
UniProt Accession #	P13688; O60430; Q069I7; Q13854; Q13857; Q13858; Q13859; Q13860; Q15600; Q15601; A6NE38; A8MY49
NCBI Official Full Name	carcinoembryonic antigen-related cell adhesion molecule 1 isoform 2
NCBI Official Synonym Full Names	carcinoembryonic antigen-related cell adhesion molecule 1 (biliary glycoprotein)
NCBI Official Symbol	CEACAM1
NCBI Official Synonym Symbols	BGP; BGP1; BGPI
NCBI Protein Information	carcinoembryonic antigen-related cell adhesion molecule 1
UniProt Protein Name	Carcinoembryonic antigen-related cell adhesion molecule 1
UniProt Gene Name	CEACAM1
UniProt Synonym Gene Names	BGP; BGP1; BGP-1
UniProt Entry Name	CEAM1_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

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Online datasheet: <https://stage.aaabiotech.com/polyclonal/ceacam-antibody-flow-cytometry-immunohistochemistry-western-blot-elisa/285413>