10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Anti-CEACAM1 Antibody

Catalog # ABO10418

Specification

Anti-CEACAM1 Antibody - Product Information

Application	**WB, IHC-P**
Primary Accession	P16573
Host	**Mouse**
Isotype	**Mouse IgG1**
Reactivity	**Human**
Clonality	**Monoclonal**
Format	**Liquid**

Description
Mouse IgG monoclonal antibody for CEA, carcinoembryonic antigen-related cell adhesion molecule 1 (CEACAM1) detection. Tested with WB, IHC-P in Human. No cross reactivity with other proteins.

Anti-CEACAM1 Antibody - Additional Information

Gene ID 81613

Other Names
Carcinoembryonic antigen-related cell adhesion molecule 1, ATP-dependent taurocolate-carrier protein, Cell-CAM 105, C-CAM 105, Ecto-ATPase, GP110, pp120, CD66a, Ceacam1 {ECO:0000312|RGD:67396}

Calculated MW
57264 MW KDa

Application Details
Immunohistochemistry(Paraffin-embedded Section), 0.5-2 µg/ml, Human, By Heat

Western blot, 0.5-1 µg/ml, Human

Subcellular Localization
Cell membrane; Single-pass type I membrane protein. Canalicular domain of hepatocyte plasma membranes.

Tissue Specificity
Expressed in epithelia, vessel endothelia, leukocytes and platelets.

Protein Name
Carcinoembryonic antigen-related cell adhesion molecule 1

Contents
Each vial contains 50% glycerol, 1.2% Sodium acetate, 1% BSA, 0.02% NaN3.

Immunogen
Carcinoembryonic antigen(CEA) isolated from a human colon adenocarcinoma cell line.

Purification

Ascites

Cross Reactivity
No cross reactivity with other proteins

Storage **At -20˚C for one year, at 4˚C for one month. Avoid repeated freezing and thawing.**

Sequence Similarities
Belongs to the immunoglobulin superfamily. CEA family.

Anti-CEACAM1 Antibody - Protein Information

Name Ceacam1 {ECO:0000312|RGD:67396}

Function
[Isoform 1]: Cell adhesion protein that mediates homophilic cell adhesion in a calcium-independent manner (PubMed:2373740, PubMed:8454589). Plays a role as coinhibitory receptor in immune response, insulin action and also functions as an activator during angiogenesis (PubMed:11850617). Its coinhibitory receptor function is phosphorylation- and PTPN6 -dependent, which in turn, suppress signal transduction of associated receptors by dephosphorylation of their downstream effectors (By similarity). Plays a role in immune response, of T-cells, natural killer (NK) and neutrophils (By similarity). 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 (By similarity). 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 (By similarity). 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 (By similarity). 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 (By similarity). Down-regulates 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 (PubMed:11850617). Upon INS stimulation, undergoes phosphorylation by INSR leading to INS clearance by increasing receptor-mediated insulin endocytosis (PubMed:7592607, PubMed:9712832). This inernalization promotes interaction with FASN leading to receptor- mediated insulin degradation and to reduction of FASN activity leading to negative regulation of fatty acid synthesis (PubMed:16054098, PubMed:7592607). 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 (PubMed:11694516). 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 (By similarity). Also regulates vascular permeability through the VEGFR2 signaling pathway resulting in control of nitric oxide production (By similarity). Down-regulates 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 (PubMed:15467833). 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 (By similarity). Mediates bile acid transport activity in a phosphorylation dependent manner (PubMed:7518458). Negatively regulates osteoclastogenesis (By similarity).

Cellular Location
[Isoform 1]: Cell membrane; Single-pass type I membrane protein. Lateral cell membrane. Apical cell membrane. Basal cell membrane. Cell junction. Cell junction, adherens junction Note=Canalicular domain of hepatocyte plasma membranes (PubMed:8513803). 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 (PubMed:19948503). Found as dimer in the solution (PubMed:9003371). Predominantly localized to the lateral cell membranes (PubMed:7774714). Cell projection, microvillus membrane {ECO:0000250|UniProtKB:P31809}; Single-pass type I membrane protein. Apical cell membrane {ECO:0000250|UniProtKB:P31809}; Single-pass type I membrane protein. Note=Localized to the apical glycocalyx surface (By similarity). Colocalizes with CEACAM20 at the apical brush border of intestinal cells (By similarity). {ECO:0000250|UniProtKB:P13688, ECO:0000250|UniProtKB:P31809}

Tissue Location
Expressed in epithelia, vessel endothelia, leukocytes and platelets. Isoform 1 and isoform 2 are highly expressed in liver and intestine, moderately in lung, and weakly in muscle, kidney, and spleen (PubMed:8454589). Expressed in granulocytes, lymphocytes, granulocytes, B cells, and T-cells (PubMed:11994468)

Anti-CEACAM1 Antibody - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

Anti-CEACAM1 Antibody - Images

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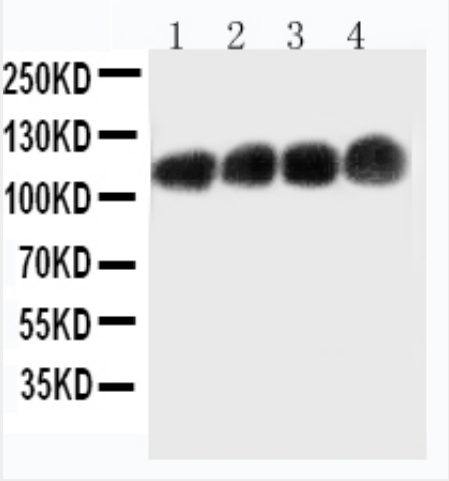
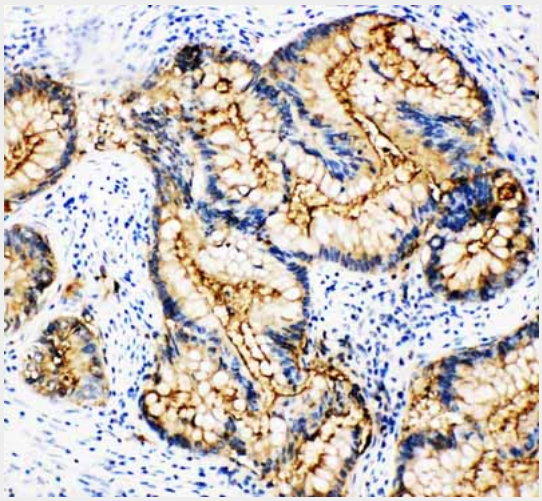
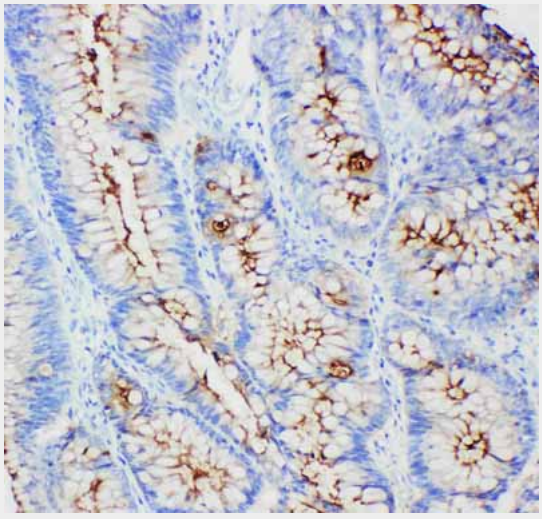


Anti-CEA antibody (monoclonal), ABO10418, Western blottingLane 1: Recombinant Human CEA Protein 10ngLane 2: Recombinant Human CEA Protein 5ngLane 3: Recombinant Human CEA Protein 2



Anti-CEA antibody (monoclonal), ABO10418, IHC(P)IHC(P): Human Intestinal Cancer Tissue



Anti-CEA antibody (monoclonal), ABO10418, IHC(P)IHC(P): Human Intestinal Cancer Tissue

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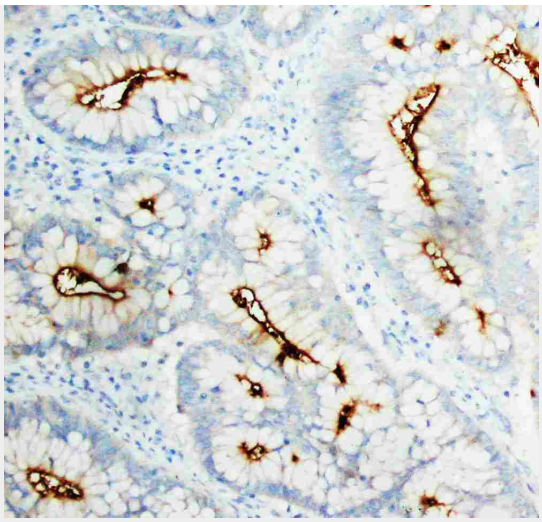

Anti-CEA antibody (monoclonal), ABO10418, IHC(P)IHC(P): Human Rectal Cancer Tissue

Anti-CEACAM1 Antibody - Background

Carcinoembryonic antigen is a complex immunoreactive glycoprotein with a molecular weight of 180,000 comprising 60% carbohydrate. It is found in adenocarcinomas of endodermally derived digestive system epithelia and in fetal colon.Carcinoembryonic antigen is one of the most widely used tumor markers in serum immunoassay determinations of carcinoma.