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CEA(C3) Mouse mAb

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Catalog # AP52203

Product Information

Application	IHC-P, IHC-F, IF
Primary Accession	P06731
Reactivity	Human
Host	Mouse
Clonality	Monoclonal
Calculated MW	76796
Physical State	Liquid
Immunogen	KLH conjugated synthetic peptide derived from human CEA/CD66e/CEACAM5
Epitope Specificity	full length
Isotype	IgG
Purity	affinity purified by Protein A
Buffer	0.01M PBS (pH7.4) with 0.02% Proclin300.
SUBCELLULAR LOCATION	Cell membrane; Lipid-anchor, GPI-anchor
Important Note	This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.
Background Descriptions	CEA-related cell adhesion molecules (CEACAM) belong to the carcinoembryonic antigen (CEA) family. It consists of seven CEACAM (CEACAM 1, CEACAM 3-CEACAM 8) and 11 pregnancy-specific glyco-protein (PSG 1-PSG 11) members. The CEA family proteins belong to the immunoglobulin (Ig) superfamily and are composed of one Ig variable-like (IgV) and a varying number (0-6) of Ig constant-like (IgC) domains. CEACAM molecules are membrane-bound either via a transmembrane domain or a glycosyl phosphatidyl inositol (GPI) anchor. CEACAM molecules are differentially expressed in epithelial cells or in leucocytes. Over-expression of CEA/ CEACAM 5 in tumors of epithelial origin is the basis of its wide-spread use as a tumor marker. The function of CEACAM family members varies widely: they function as cell adhesion molecules, tumor suppressors, regulators of lymphocyte and dendritic cell activation, receptors of Neisseria species and other bacteria.CEA (Carcino Embryonic Antigen, CD66e) is synthesized during development in the fetal gut, and re-expressed in increased amounts in intestinal carcinomas and several other tumors. CEA is a member of carcinoembryonic antigens, immunoglobulin supergene family and consists of a single N domain (structural homology to the immunoglobulin variable) and six immunoglobulin constant-like A (A1, A2, A3) and B domains (B1, B2, B3). Antibodies to CEA are useful in identifying the origin of various metastatic adenocarcinomas and in distinguishing pulmonary adenocarcinomas (60 to 70% are CEA+) from pleural mesotheliomas (rarely or weakly CEA+). CEA is a member of a large family of glycoproteins, a useful tumor marker for adenocarcinoma, and found in adenocarcinomas of endodermally derived digestive system epithelium and fetal colon. Two subgroups of the CEA family, the CEA cell adhesion molecules and the pregnancy-specific glycoproteins, are located within a 1.2 Mb cluster on the long arm of chromosome 19. Eleven pseudogenes of the CEA cell adhesion molecule subgroup are also found in

the cluster. CEA was originally described in bile ducts of liver as biliary glycoprotein. Subsequently, CEA was found to be a cell-cell adhesion molecule detected on leukocytes, epithelia, and endothelia. The encoded 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 encoded 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. Multiple transcript variants encoding different isoforms have been reported, but the full-length nature of all variants has not been defined.

Additional Information

Gene ID	1048
Other Names	Cell adhesion molecule CEACAM5, Carcinoembryonic antigen, CEA, Carcinoembryonic antigen-related cell adhesion molecule 5, CEA cell adhesion molecule 5 {ECO:0000312|HGNC:HGNC:1817}, Meconium antigen 100, CD66e, CEACAM5 (HGNC:1817)
Dilution	IHC-P=1:100-500,IHC-F=1:100-50javascript:;0,IF=1:100-500,ELISA=1:5000-10000
Storage	Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.

Protein Information

Name	CEACAM5 (HGNC:1817)
Function	Cell surface glycoprotein that plays a role in cell adhesion, intracellular signaling and tumor progression (PubMed:10864933, PubMed:10910050, PubMed:2803308). Mediates homophilic and heterophilic cell adhesion with other carcinoembryonic antigen-related cell adhesion molecules, such as CEACAM6 (PubMed:2803308). Plays a role as an oncogene by promoting tumor progression; induces resistance to anoikis of colorectal carcinoma cells (PubMed:10910050).
Cellular Location	Cell membrane; Lipid-anchor, GPI-anchor; Extracellular side. Apical cell membrane. Cell surface Note=Localized to the apical glycocalyx surface
Tissue Location	Expressed in columnar epithelial and goblet cells of the colon (at protein level) (PubMed:10436421). Found in adenocarcinomas of endodermally derived digestive system epithelium and fetal colon.

Background

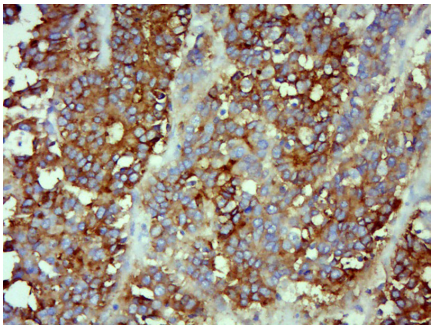
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References

Kuroki M.,et al.J. Biol. Chem. 266:11810-11817(1991).

Nagel G.,et al.Eur. J. Biochem. 214:27-35(1993).
Grimwood J.,et al.Nature 428:529-535(2004).
Mural R.J.,et al.Submitted (SEP-2005) to the EMBL/GenBank/DDBJ databases.
Khan W.N.,et al.Genomics 14:384-390(1992).

Images



Paraformaldehyde-fixed, paraffin embedded (Human liver cancer); Antigen retrieval by boiling in sodium citrate buffer (pH6.0) for 15min; Block endogenous peroxidase by 3% hydrogen peroxide for 20 minutes; Blocking buffer (normal goat serum) at 37°C for 30min; Antibody incubation with (CEA(C3)) Polyclonal Antibody, Unconjugated (AP52203) at 1:500 overnight at 4°C, followed by a conjugated secondary (sp-0023) for 20 minutes and DAB staining.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.