OriGene Technologies, Inc.
9620 Medical Center Drive, Ste 200
Rockville, MD 20850
UNITED STATES
Phone: +1-888-267-4436
Fax: +1-301-340-8606
techsupport@origene.com

OriGene Technologies GmbH
Schillerstr. 5
32052 Herford
GERMANY
Phone: +49-5221-34606-0
Fax: +49-5221-34606-11
info-de@origene.com

DM1203 Monoclonal Antibody to Human CEACAM5, 6

Alternate names: CEA, CEACAM5, CEACAM6, Carcinoembryonic antigen, Carcinoembryonic antigen-related cell adhesion molecule 5, Meconium Antigen 100, NCA, Normal Cross-reacting Antigen

Quantity: 0.1 mg

Concentration: 1,0 mg/ml

Background: CEA-related cell adhesion molecules (CEACAM) belong to the carcinoembryonic antigen (CEA) family (1). 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/CEACAM5 in tumors of epithelial origin is the basis of its wide-spread use as a tumor marker (2). CEACAM6 expression is strongly upregulated already during early stages of adenocarcinoma formation (3). The function of CEA 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 (1).

Host / Isotype: Mouse / IgG1

Recommended Isotype Controls: SM10P (for use in human samples), AM03095PU-N

Clone: MUS

Immunogen: MUS was generated by immunisation of BALB/c mice with CEA partially purified from a perchloric acid extract from liver metastases of colonic tumors (3).

Format:
State: Liquid purified IgG fraction
Purification: Affinity Chromatography on Protein G
Buffer System: Phosphate buffered saline, pH 7.2

Applications:
Flow Cytometry: 1.2 µg/10^6 cells.
ELISA: 1/200-1/400.
Cell based ELISA with intakt, transiently transfected cells: 1/200.
Western blot: 4 µg/ml.
Immunohistochemistry: 1-2 µg/10^6 cells (on Cryosections).
Other applications not tested. Optimal dilutions are dependent on conditions and should be determined by the user.

Specificity:
This antibody reacts to CD66c/e.
Species: Human.
Other species not tested.

Storage:
Store undiluted at 2-8°C for one month or (in aliquots) at -20°C for longer.
Avoid repeated freezing and thawing.
Shelf life: one year from despatch.

Product Citations:

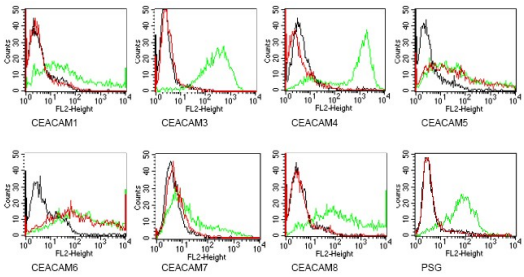
Originator or purchased from resellers:

1. Maraqa L. et al (2006): CEACAM: A potential novel predictor of breast cancer recurrence. AACR Meeting Abstracts 2006 : PR-8
2. Tsutsumida H, Swanson BJ, Singh PK, Caffrey TC, Kitajima S, Goto M, et al. RNA interference suppression of MUC1 reduces the growth rate and metastatic phenotype of human pancreatic cancer cells. Clin Cancer Res. 2006 May 15;12(10):2976-87. PubMed PMID: 16707592.

General Readings:

1. Zimmermann W (2002). Carcinoembryonic antigen. In Wiley Encyclopedia of Molecular Medicine (T. Creighton, ed.), John Wiley & Sons Inc., New York, USA, pp. 459-462.
2. Hammarström S. The carcinoembryonic antigen (CEA) family: structures, suggested functions and expression in normal and malignant tissues. Semin Cancer Biol. 1999 Apr;9(2):67-81. PubMed PMID: 10202129.
3. Schölzel S, Zimmermann W, Schwarzkopf G, Grunert F, Rogaczewski B, Thompson J. Carcinoembryonic antigen family members CEACAM6 and CEACAM7 are differentially expressed in normal tissues and oppositely deregulated in hyperplastic colorectal polyps and early adenomas. Am J Pathol. 2000 Feb;156(2):595-605. PubMed PMID: 10666389.
4. Grunert F, AbuHarfeil N, Schwarz K, von Kleist S. Two CEA and three NCA species, although distinguishable by monoclonal antibodies, have nearly identical peptide patterns. Int J Cancer. 1985 Sep 15;36(3):357-62. PubMed PMID: 3839768.

Pictures:



BOSC cells were transiently transfected with expression vectors containing eitherthe cDNA of CEACAM1, 3, 5, 6, 7, 8 or a recombinant transmembrane-anchored PSG1 fusion protein. Recognition ofCEACAM4 was tested on CHO cells stably transfected with a CEACAM4 expression vector. Expression of the con-structs was confirmed with monoclonal antibodies known to recognise the corresponding proteins (CEACAM1, 3, 4, 5and 6: D14HD11; CEACAM7: CAC2; CEACAM8: 80H3; PSG: BAP1; green curves). An irrelevant monoclonal antibodyserved as a negative control (black curves). For specificity testing, protein G purified MUS was tested on all CEACAMtransfectants. A positive signal was obtained with CEACAM5 and CEACAM6 expressing cells (red curves).

Fig.2: FACS analysis of BOSC23 cells using MUS DM1203. BOSC23 cells were transiently transfected with anexpression vector encoding either CEACAM6 (red curve) oran irrelevant protein (control transfectant). Binding of MUSwas detected with a PE conjugated secondary antibody.Apositive signal was obtained only with CEACAM6 transfectedcells.

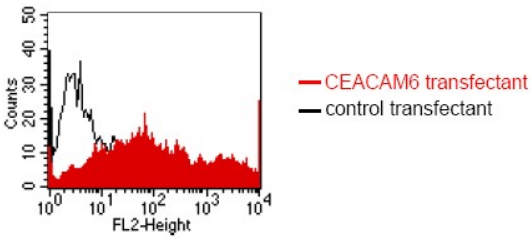


Fig.1: FACS analysis of BOSC23 cells using MUS Cat.# DM1203. BOSC23 cells were transiently transfected with anexpression vector encoding either CEACAM5 (red curve) oran irrelevant protein (control transfectant). Binding of MUSwas detected with a PE conjugated secondary antibody.Apositive signal was obtained only with CEACAM5 transfectedcells.