

Product Data Sheet

anti-human CEACAM7 monoclonal antibody

Product information

Catalog Number:	GM-0508
Clone:	BAC2
Description:	purified monoclonal mouse antibody
Specificity:	anti-human CEACAM7 (CGM2)
Isotype:	IgG1
Purification:	Protein G
Storage:	short term: 2°C - 8°C; long term: -20°C (avoid repeated freezing and thawing)
Buffer :	phosphate buffered saline, pH 7.2
Immunogen:	immunisation with a CEACAM7/Fc fusion protein
Selection:	based on recognition of the complete native protein expressed on transfected mammalian cells

Working dilutions

Flow cytometry:	1.2 µg/10 ⁶ cells
CELISA:	1:200 - 1:400

For each application a titration should be performed to determine the optimal concentration.

Specificity testing by flow cytometry

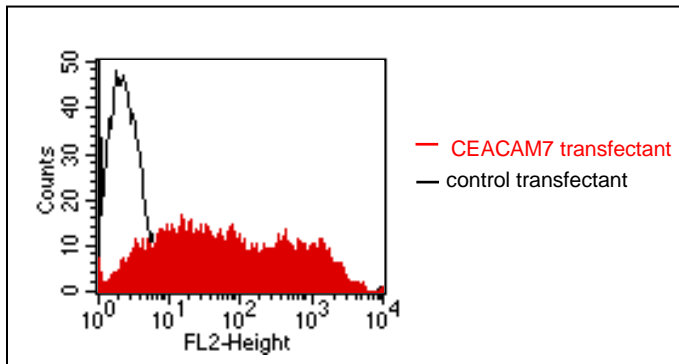


Fig.1: FACS analysis of BOSC23 cells using BAC2 Cat.# GM-0508. BOSC23 cells were transiently transfected with an expression vector encoding either CEACAM7 (red curve) or an irrelevant protein (control transfectant). Binding of BAC2 was detected with a PE-conjugated secondary antibody. A positive signal was obtained only with CEACAM7 transfected cells.

Antibody cross-reactivity with members of the CEA family

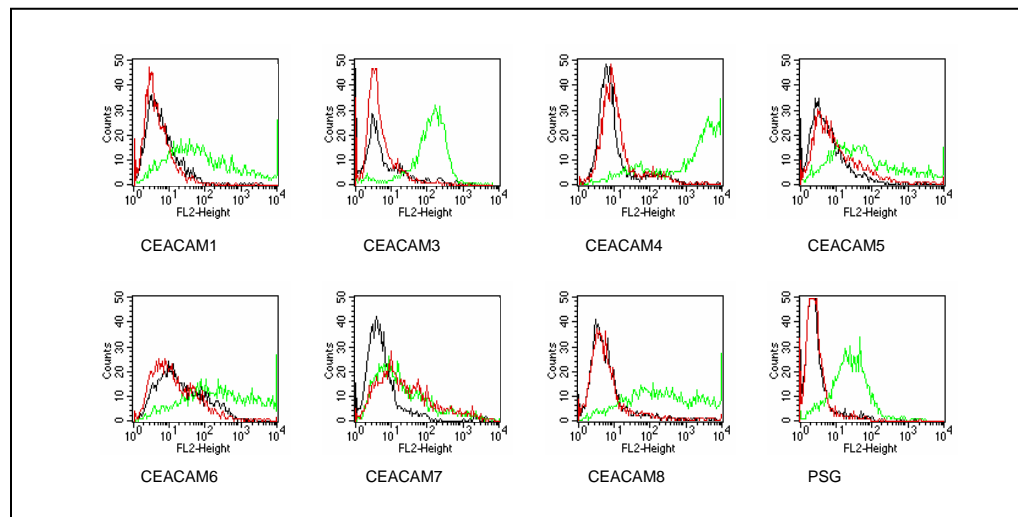


Fig. 2: Members of the CEACAM family were expressed on BOSC cells after transient transfection with expression vectors containing either the cDNA of CEACAM1, 5, 6, 7, 8 or a recombinant trans-membrane-anchored PSG1 fusion protein. Recognition of CEACAM3, CEACAM4 and PSG1 was tested on stably transfected HeLa (CEACAM3, PSG) and CHO cells (CEACAM4), respectively. Expression of the constructs was confirmed with monoclonal antibodies known to recognize the corresponding proteins (CEACAM1, 3, 4, 5 and 6: D14HD11; CEACAM7: CAC2; CEACAM8: TET2; PSG: BAP1; green curves). An irrelevant monoclonal antibody served as a negative control (black curves). For specificity testing, protein G purified BAC2 was tested on all CEACAM transfectants. A positive signal was only obtained with CEACAM7 expressing cells (red curves).

Background

CEA-related cell adhesion molecule 7 (CEACAM7, CGM2) belongs to the carcinoembryonic antigen (CEA) family (1). It encodes a glycosyl phosphatidyl inositol (GPI)-linked glycoprotein which is only found on the apical surface of highly differentiated epithelial cells adult colon and on a small epithelial cell population in pancreatic ducts (2). CEACAM7 expression is completely lost upon malignant transformation already in hyperplastic polyps and early adenomas as well as in adenocarcinomas of the colon (2). Like all members of the CEACAM family, it consists of a single N domain, with structural homology to the immunoglobulin variable domains, followed by one immunoglobulin constant-like A domain.

References

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. **Schoelzel S et al. (2000):** 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*, 156/2: 595-605
3. **Hammarström S (1999).** The carcinoembryonic antigen (CEA) family: structures, suggested functions and expression in normal and malignant tissues. *Semin. Cancer Biol.* 9, 67-81.
4. **Grunert F, Stocks SC, Nagel G., Zimmermann W, Thompson JA, Jantschke P and Kromer B. (1996).** CD66 family Workshop: Binding of myeloid blind panel antibodies and CD66 Subsection antibodies to HeLa transfectants expressing individual CD66 molecules. In *Leukocyte Typing VI: White cell Differentiation Antigens* (T. Kishimoto et al., eds.), Garland Publishing Inc., New York and London, pp. 1012-1025.