

Product Data Sheet

anti-human CEACAM5 monoclonal antibody

Product information

Catalog Number:	GM-0503
Clone:	26/3/13
Description:	purified monoclonal mouse antibody
Specificity:	anti-human CEACAM5 (CEA; CD66e)
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 extracted protein of CEACAM5
Selection:	based on recognition of the complete native protein expressed on transfected mammalian cells

Working dilutions

Flow cytometry:	1.2 µg/10 ⁶ cells
ELISA:	1:200 - 1:400
CELISA:	1:200
Western blot:	4µg/ml
Immunohistology:	1-2 µg/10 ⁶ cells (on cryosections)

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

Specificity testing by flow cytometry

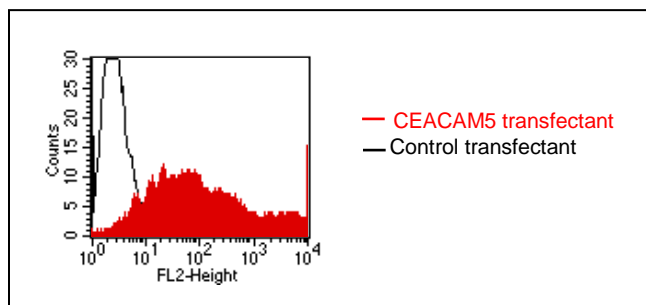


Fig.1: FACS analysis of BOSC23 cells using 26/3/13 Cat.# GM-0503. BOSC23 cells were transiently transfected with an expression vector encoding either CEACAM5 (red curve) or an irrelevant protein (control transfectant). Binding of 26/3/13 was detected with a PE-conjugated secondary antibody. A positive signal was obtained only with CEACAM5 transfected cells.

Antibody cross-reactivity with members of the CEA family

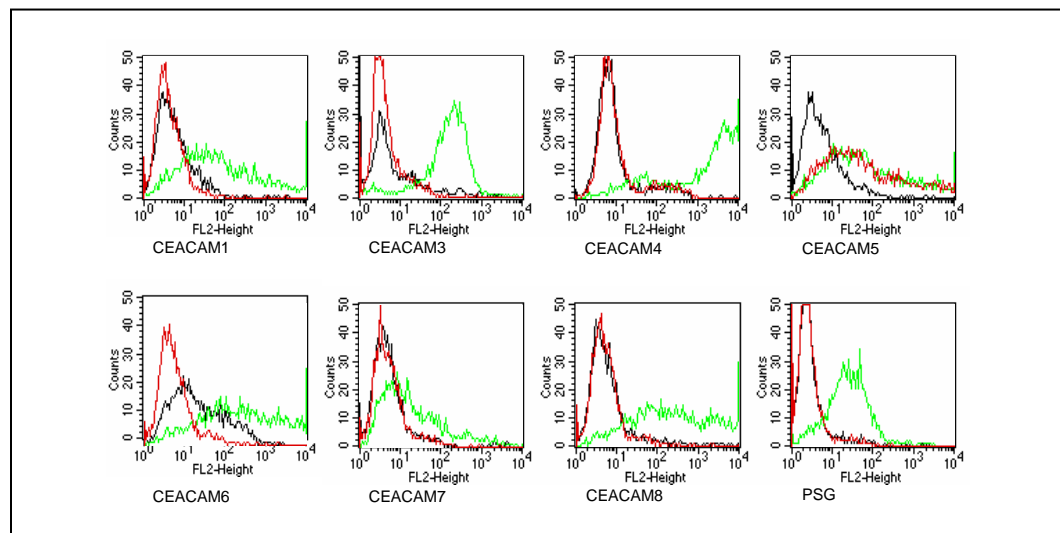


Fig. 2: Specificity testing of 26/3/13. BOSC23 cells were transiently transfected with expression vectors containing either the cDNA of CEACAM1, CEACAM5-8. Recognition of CEACAM3, 4 and of a recombinant transmembrane-anchored PSG1 fusion protein was tested on stably transfected HeLa (CEACAM3, PSG) and 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 26/3/13 was tested on all CEACAM transfectants. A positive signal was only obtained with CEACAM5 expressing cells (red curves).

Background

CEACAM5 (CEA-related cell adhesion molecule 5, CEA) belongs to the carcinoembryonic antigen (CEA) gene family (1,2). It encodes a glycosyl phosphatidyl inositol (GPI)-linked glycoprotein with a M_r of 180,000-200,000 which is most strongly expressed on epithelial cells of the fetal and adult colon and to a minor extent on epithelial cells of the stomach and sweat glands, squamous epithelial cell of the tongue, esophagus and cervix. CEACAM5 is used as a tumor marker for early detection of recurrent disease due to its expression in adenocarcinomas of the colon, lung, breast, stomach and pancreas and in mucinous ovarian carcinomas (3). Like all members of the CEACAM family, it consists of a single N domain, with structural homology to the immunoglobulin variable domains, followed by six immunoglobulin constant-like A (A1, A2, A3) and B domains (B1, B2, B3).

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. **Hammarström S (1999).** The carcinoembryonic antigen (CEA) family: structures, suggested functions and expression in normal and malignant tissues. *Semin. Cancer Biol.* 9, 67-81.
3. **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.