

# CEACAM1 (6D305): sc-70450

## BACKGROUND

Carcinoembryonic antigen (CEA) is one of the most commonly used tumor markers in serum immunoassay determinations of carcinoma. Members of the CEACAM (carcinoembryonic antigen-related cell adhesion molecule) family contain a single N domain, with structural homology to the immunoglobulin variable domains, followed by a variable number of immunoglobulin constant-like A and/or B domains. CEACAM1 (carcinoembryonic antigen-related cell adhesion molecule 1), also known as BGP or BGP1, is a 526 amino acid protein that exists as seven alternatively spliced isoforms, some of which localize to the cell membranes, while others are secreted. One of several members of the CEACAM family, CEACAM1 contains one Ig-like V-type domain and three Ig-like C2-type domains and is thought to play a role in a variety of cellular activities, including angiogenesis, apoptosis, arrangement of tissue three-dimensional structure and modulation of innate and adaptive immune responses. Additionally, CEACAM1 is underexpressed in colorectal cancers, suggesting a role in tumor suppression.

## REFERENCES

1. Muenzner, P., Bachmann, V., Kuespert, K. and Hauck, C.R. 2008. The CEACAM1 transmembrane domain, but not the cytoplasmic domain, directs internalization of human pathogens via membrane microdomains. *Cell. Microbiol.* 10: 1074-1092.
2. Skubitz, K.M. and Skubitz, A.P. 2008. Interdependency of CEACAM-1, -3, -6, and -8 induced human neutrophil adhesion to endothelial cells. *J. Transl. Med.* 6: 78.
3. Lee, H.S., Ostrowski, M.A. and Gray-Owen, S.D. 2008. CEACAM1 dynamics during neisseria gonorrhoeae suppression of CD4<sup>+</sup> T lymphocyte activation. *J. Immunol.* 180: 6827-6835.
4. Gaur, S., Shively, J.E., Yen, Y. and Gaur, R.K. 2008. Altered splicing of CEACAM1 in breast cancer: identification of regulatory sequences that control splicing of CEACAM1 into long or short cytoplasmic domain isoforms. *Mol. Cancer* 7: 46.
5. Slevogt, H., Zabel, S., Opitz, B., Hocke, A., Eitel, J., N'guessan, P.D., Lucka, L., Riesbeck, K., Zimmermann, W., Zweigner, J., Temmesfeld-Wollbrueck, B., Suttrop, N. and Singer, B.B. 2008. CEACAM1 inhibits Toll-like receptor 2-triggered antibacterial responses of human pulmonary epithelial cells. *Nat. Immunol.* 9: 1270-1278.
6. Nittka, S., Böhm, C., Zentgraf, H. and Neumaier, M. 2008. The CEACAM1-mediated apoptosis pathway is activated by CEA and triggers dual cleavage of CEACAM1. *Oncogene* 27: 3721-3728.
7. Zalzal, H., Naudin, C., Bastide, P., Quittau-Prevostel, C., Yaghi, C., Poulat, F., Jay, P. and Blache, P. 2008. CEACAM1, a SOX9 direct transcriptional target identified in the colon epithelium. *Oncogene* 27: 7131-7138.
8. Rahmoun, M., Molès, J.P., Pedretti, N., Mathieu, M., Fremaux, I., Raison-Peyron, N., Lecron, J.C., Yssel, H. and Pène, J. 2009. Cytokine-induced CEACAM1 expression on keratinocytes is characteristic for psoriatic skin and contributes to a prolonged lifespan of neutrophils. *J. Invest. Dermatol.* 129: 671-681.

## CHROMOSOMAL LOCATION

Genetic locus: CEACAM1 (human) mapping to 19q13.2.

## SOURCE

CEACAM1 (6D305) is a mouse monoclonal antibody raised against CEACAM1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CEACAM1 (6D305) is available conjugated to either phycoerythrin (sc-70450 PE) or fluorescein (sc-70450 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

## APPLICATIONS

CEACAM1 (6D305) is recommended for detection of CEACAM1 of human origin by immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

Suitable for use as control antibody for CEACAM1 siRNA (h): sc-29845, CEACAM1 shRNA Plasmid (h): sc-29845-SH and CEACAM1 shRNA (h) Lentiviral Particles: sc-29845-V.

Molecular Weight of CEACAM1: 90-180 kDa.

## RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended:  
1) Immunofluorescence: use m-IgGk BP-FITC: sc-516140 or m-IgGk BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## STORAGE

Store at 4° C, **\*\*DO NOT FREEZE\*\***. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) for detailed protocols and support products.