

CEACAM1 (GM8G5): sc-59812

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 7 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

- Muenzner, P., et al. 2008. The CEACAM1 transmembrane domain, but not the cytoplasmic domain, directs internalization of human pathogens via membrane microdomains. *Cell. Microbiol.* 10: 1074-1092.
- 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.
- Lee, H.S., et al. 2008. CEACAM1 dynamics during neisseria gonorrhoeae suppression of CD4⁺ T lymphocyte activation. *J. Immunol.* 180: 6827-6835.
- Gaur, S., et al. 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.
- Slevogt, H., et al. 2008. CEACAM1 inhibits Toll-like receptor 2-triggered antibacterial responses of human pulmonary epithelial cells. *Nat. Immunol.* 9: 1270-1278.

CHROMOSOMAL LOCATION

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

SOURCE

CEACAM1 (GM8G5) is a mouse monoclonal antibody raised against CEACAM1 of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

CEACAM1 (GM8G5) is available conjugated to either phycoerythrin (sc-59812 PE) or fluorescein (sc-59812 FITC), 200 µg/ml, for IF, IHC(P) and FCM.

RESEARCH USE

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

APPLICATIONS

CEACAM1 (GM8G5) is recommended for detection of CEACAM1 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

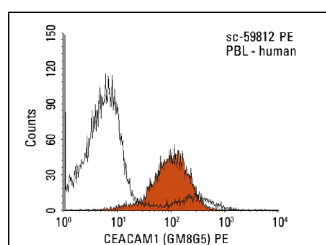
Molecular Weight of CEACAM1: 90-180 kDa.

Positive Controls: SW480 cell lysate: sc-2219 or T84 whole cell lysate: sc-364797.

RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



CEACAM1 (GM8G5): sc-59812. Indirect FCM analysis of human peripheral blood leukocytes stained with CEACAM1 (GM8G5), followed by PE-conjugated goat anti-mouse IgG: sc-3738. Black line histogram represents the isotype control, normal mouse IgG₁: sc-3877.

SELECT PRODUCT CITATIONS

- Kiriya, S., et al. 2014. CEACAM1 long cytoplasmic domain isoform is associated with invasion and recurrence of hepatocellular carcinoma. *Ann. Surg. Oncol.* 21 Suppl 4: S505-S514.
- Ennen, M., et al. 2015. Single-cell gene expression signatures reveal melanoma cell heterogeneity. *Oncogene* 34: 3251-3263.

STORAGE

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