SANTA CRUZ BIOTECHNOLOGY, INC.

CEACAM1 (E-10): sc-166404

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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., 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.
2. Skubitz, K.M. and Skubitz, A.P. 2008. Interdependency of CEACAM1, 3, 6, and 8 induced human neutrophil adhesion to endothelial cells. J. Transl. Med. 6: 78.
3. Lee, H.S., et al. 2008. CEACAM1 dynamics during *Neisseria gonorrhoeae* suppression of $CD4^+$ T lymphocyte activation. J. Immunol. 180: 6827-6835.
4. 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.
5. Slevogt, H., et al. 2008. CEACAM1 inhibits Toll-like receptor 2-triggered antibacterial responses of human pulmonary epithelial cells. Nat. Immunol. 9: 1270-1278.
6. Nittka, S., et al. 2008. The CEACAM1-mediated apoptosis pathway is activated by CEA and triggers dual cleavage of CEACAM1. Oncogene 27: 3721-3728.

CHROMOSOMAL LOCATION

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

SOURCE

CEACAM1 (E-10) is a mouse monoclonal antibody raised against amino acids 391-526 mapping at the C-terminus of CEACAM1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

RESEARCH USE

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

APPLICATIONS

CEACAM1 (E-10) is recommended for detection of CEACAM1 of human origin by Western Blotting (starting dilution 1:100, 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.

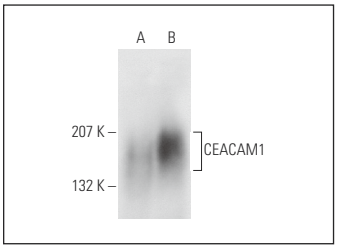
Molecular Weight of CEACAM1: 90-180 kDa.

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

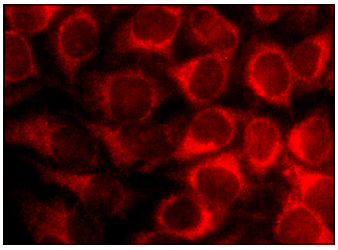
RECOMMENDED SUPPORT REAGENTS

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, UltraCruz® Blocking Reagent: sc-516214 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 (E-10): sc-166404. Western blot analysis of CEACAM1 expression in SW480 (**A**) and T84 (**B**) whole cell lysates.



CEACAM1 (E-10): sc-166404. Immunofluorescence staining of methanol-fixed HeLa cells showing intracellular localization.

SELECT PRODUCT CITATIONS

1. Aqil, M., et al. 2015. A549 cells adapted to high nitric oxide show reduced surface CEACAM expression and altered adhesion and migration properties. Tumour Biol. 36: 1871-1819.
2. Toone, S.L., et al. 2020. Nontypeable haemophilus influenzae type IV pilus mediates augmented adherence to rhinovirus-infected human airway epithelial cells. Infect. Immun. 88: e00248-20.

STORAGE

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