Leuko Com

**anti macaque CEACAM1 / human CEACAM1/5**
monoclonal antibody
mouse IgG1; **clone 9A*6**

## DESCRIPTION

| | |
|---|---|
| Clone Name | 9A*6 |
| Applications | Flow Cytometry, ELISA, IF, IP, WB |
| Clonality & host & isotype | Monoclonal mouse IgG1/kappa |
| Immunogen | recombinant macaque-CEACAM1-Fc |
| Target molecular weight | calculated: 54 kDa, 100-130 kDa TM-anchored glycoprotein, also soluble variants |
| Recommended concentration | 2–10µg/ml |
| Concentration | mg/ml (lot specific) |
| Formulation | PBS (pH 7.3), cell culture grade |
| Purification | purified from cell culture supernatant (ISF-1 Media) by affinity chromatography (protein G) |
| Storage | Shipped at -20°C or with ice packs, upon delivery store at -20°C. Dilute in PBS (pH7.3) if necessary. Stable for 12 months from date of receipt. Avoid repeated freeze-thaws. |
| Conjugation | unconjugated |
| Mouse Strain | Balb/c |
| Fusion partner | P3/NS1/-Ag4.1 |
| Target | The carcinoembryonic antigen (CEA) gene family belongs to the immunoglobulin (Ig) gene superfamily, constisting of 35 genes of which 21 are protein encoding (1). **CEACAM1** (CD66a) is a co-modulator of various receptors, like B-cell, T-cell, EGF-, Insulin-, VEGF-, G-CSR-receptors. CEACAM1 induces B-cell survival and is essential for the resolution of viral infection via protective antiviral antibody production (2,3). It is expressed on neutrophils, activated NK cells, bile duct, colonic epithelial cells, and endothelial cells. It engages in homotypic adhesion and heterotypic adhesion with CEACAM-3/CD66d and CEACAM-6/CD66c. CEACAM1, as opposed to CEACAM3, acts as a tumor suppressor, shown to inhibit the growth of prostate, colon, and breast tumors. The ITIM present in the cytoplasmatic domain could presumably account for CEACAM1's tumor suppressive properties.<br><br>As a defence mechanism against pathogens in primate species, the CEACAM5 has maintained similarity to the pathogen receptor CEACAM1. Thereby, GPI-anchored CEACAM5 can function as a decoy receptors to distract binding of bacterial adhesions to the immunoregulatory CEACAM1 (4).<br>The mAb **9A*6**-shows specific binding to macaque CEACAM1, as well as to human CEACAM1 and human CEACAM5. |
| UniProt ID | A0A1D5QNP0 |

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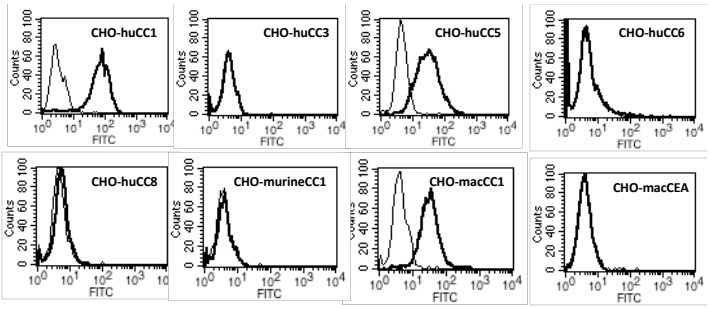
## IMAGE DATA




**Flow Cytometry analysis**

200 000 CHO cells transfected with the indicated CEACAM-plasmids were stained either with the **mAb 9A*6** (bold line) or with the murine isotype control mAb (dashed line) at 20 µg/ml (130 nM). Detection occurred with an FITC-conjugated anti-mouse IgG. As further negative control, cells were incubated with the detection antibody only (dotted line).

Specific staining could be detected against the CHO-cell line transfected with the macaque CEACAM1, as well as with the human CEACAM1 and human CEACAM5.

## REFERENCE

(1) Hammarstrom et al. **The carcinoembryonic antigen (CEA) family: structures, suggested functions and expression in normal and malignant tissues.** Semin Cancer Biol 1999. 9:67–81. PMID: 10202129

(2) Khairnar et al. **CEACAM1 promotes CD8⁺ T cell responses and improves control of a chronic viral infection.** Nat Commun. 2018 Jul 2;9(1):2561. PMID: 29967450

(3) Khairnar et al. **CEACAM1 induces B-cell survival and is essential for protective antiviral antibody production** Nat Commun. 2015 Feb 18:6:6217. PMID: 25692415

(4) Zimmermann and Kammerer **Evolution of CEACAM pathogen decoy receptors in primate** *Eur J Clin Invest.* 2024;54(Suppl. 2):e14356. PMID: 39674876

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