

Ceacam1 Antibody / Carcinoembryonic antigen-related cell adhesion molecule 1 (FY13281)

Catalog No.	Formulation	Size
FY13281	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

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Availability	1-2 days
Species Reactivity	Mouse, Rat
Format	Lyophilized
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na ₂ HPO ₄ .
UniProt	P31809
Applications	Western Blot : 0.25-0.5ug/ml Immunocytochemistry : 5ug/ml Immunofluorescence : 5ug/ml Flow Cytometry : 1-3ug/million cells ELISA : 0.1-0.5ug/ml
Limitations	This Ceacam1 antibody is available for research use only.

Description

CEACAM1 antibody targets Carcinoembryonic antigen-related cell adhesion molecule 1, a transmembrane glycoprotein that mediates cell-cell adhesion, signal transduction, and immune regulation. The CEACAM1 gene belongs to the CEA family within the immunoglobulin superfamily and encodes multiple isoforms with long or short cytoplasmic tails. CEACAM1 is broadly expressed on epithelial cells, endothelial cells, and subsets of leukocytes, including activated T and B cells, natural killer cells, and neutrophils. The protein functions as both an adhesion molecule and an immune checkpoint regulator, participating in inhibitory signaling via its immunoreceptor tyrosine-based inhibitory motifs (ITIMs) present in the long cytoplasmic domain.

CEACAM1 contributes to numerous physiological processes including tissue morphogenesis, angiogenesis, and modulation of inflammatory responses. Its expression at intercellular junctions facilitates homophilic and heterophilic interactions with other CEACAM family members, supporting epithelial integrity. In immune cells, CEACAM1 engagement downregulates T-cell activation and cytokine release, serving as a negative regulator of immune responses.

Dysregulation of CEACAM1 signaling has been implicated in autoimmune disorders, infectious disease susceptibility, and tumor immune evasion. In cancer biology, CEACAM1 acts context-dependently: it may function as a tumor suppressor by maintaining epithelial polarity, yet also contributes to tumor metastasis and angiogenesis in certain malignancies.

The human CEACAM1 gene is located on chromosome 19q13.2 and spans over 9 exons. Its expression is transcriptionally controlled by cytokines such as interferon gamma and transforming growth factor beta, reflecting its integration into immune regulatory networks. Pathogen binding studies have shown that CEACAM1 serves as an entry receptor for several bacteria, including *Neisseria* species and *Haemophilus influenzae*, making it a target of interest in host-pathogen interaction research.

Immunohistochemical staining using CEACAM1 antibody demonstrates strong expression in liver, lung, and intestinal epithelia, with variable detection in tumors such as melanoma, colorectal carcinoma, and prostate cancer. CEACAM1 antibody from NSJ Bioreagents provides a valuable reagent for investigating epithelial differentiation, immune checkpoint biology, and cancer progression mechanisms.

Application Notes

Optimal dilution of the Ceacam1 antibody should be determined by the researcher.

Immunogen

E.coli-derived mouse Ceacam1 recombinant protein (Position: A34-D382) was used as the immunogen for the Ceacam1 antibody.

Storage

After reconstitution, the Ceacam1 antibody can be stored for up to one month at 4oC. For long-term, aliquot and store at -20oC. Avoid repeated freezing and thawing.