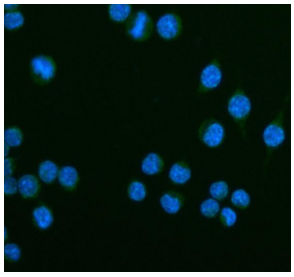
Ceacam1 Antibody / Carcinoembryonic antigen-related cell adhesion molecule 1 (FY13281)

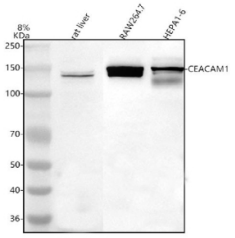
Catalog No.	Formulation	Size
FY13281	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

Bulk quote request

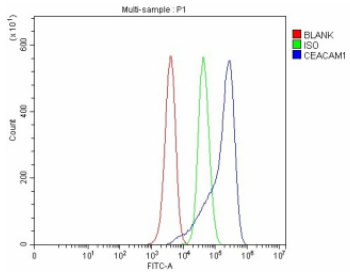
Availability	1-2 days
Species Reactivity	Mouse, Rat
Format	Lyophilized
Host	Rabbit
Clonality	Polyclonal (rabbit origin)
Isotype	Rabbit IgG
Purity	Immunogen affinity purified
Buffer	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na2HPO4.
UniProt	P31809
Applications	Western Blot : 0.25-0.5ug/ml 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.



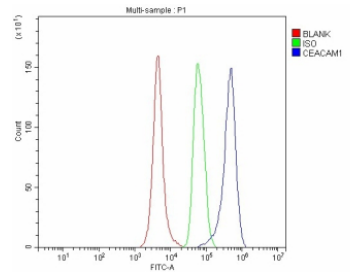
Immunofluorescent staining of CEACAM1 using anti-Ceacam1 antibody (green). CEACAM1 was detected in an immunocytochemical section of mouse RAW264.7 cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-Ceacam1 antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of CEACAM1 using anti-Ceacam1 antibody. Lane 1: rat liver tissue lysates, Lane 2: mouse Raw264.7 whole cell lysates, Lane 3: mouse Hepa1-6 whole cell lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-Ceacam1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using enhanced chemiluminescent. A predominant doublet is detected between an approximately 140 and 150 kDa in all samples, running well above the predicted ~57 kDa polypeptide mass. The higher apparent molecular weight is consistent with heavily N-glycosylated CEACAM1, and the 140-150 kDa doublet likely represents disulfide-linked dimers of mature CEACAM1 present in two closely spaced glycoforms.



Flow Cytometry analysis of HEPA1-6 cells using anti-Ceacam1 antibody. Overlay histogram showing HEPA1-6 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-Ceacam1 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.



Flow Cytometry analysis of RAW264.7 cells using anti-Ceacam1 antibody. Overlay histogram showing RAW264.7 cells stained with (Blue line). The cells were fixed with 4% paraformaldehyde and blocked with 10% normal goat serum. And then incubated with rabbit anti-Ceacam1 antibody (1 ug/million cells) for 30 min at 20oC. DyLight 488 conjugated goat anti-rabbit IgG (5-10 ug/million cells) was used as secondary antibody for 30 minutes at 20oC. Isotype control antibody (Green line) was rabbit IgG (1 ug/million cells) used under the same conditions. Unlabelled sample without incubation with primary antibody and secondary antibody (Red line) was used as a blank control.

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.