

## CEACAM1 Protein, Rat, Recombinant (His)

### General Information

Synonyms:	carcinoembryonic antigen-related cell adhesion molecule 1 (biliary glycoprotein)
Protein Construction:	A DNA sequence encoding the rat CEACAM1 (NP_001029032.1) (Met1-Ser422) was expressed with a polyhistidine tag at the C-terminus. Predicted N terminal: Gln 35
Species:	Rat
Expression Host:	HEK293 Cells
Accession:	NP_001029032.1
Molecular Weight:	44.9 kDa (predicted); 66-76 kDa (reducing condition, due to glycosylation)

### QC Testing

Biological Activity:	Activity testing is in progress. It is theoretically active, but we cannot guarantee it. If you require protein activity, we recommend choosing the eukaryotic expression version first.
Purity:	> 95 % as determined by SDS-PAGE
Endotoxin:	< 1.0 EU/μg of the protein as determined by the LAL method.
Formulation:	Lyophilized from a solution filtered through a 0.22 μm filter, containing PBS, pH 7.4. Typically, a mixture containing 5% to 8% trehalose, mannitol, and 0.01% Tween 80 is incorporated as a protective agent before lyophilization.

### Preparation and Storage

**Reconstitution:**  
A Certificate of Analysis (CoA) containing reconstitution instructions is included with the products. Please refer to the CoA for detailed information.

**Stability & Storage:**  
It is recommended to store recombinant proteins at -20°C to -80°C for future use. Lyophilized powders can be stably stored for over 12 months, while liquid products can be stored for 6-12 months at -80°C. For reconstituted protein solutions, the solution can be stored at -20°C to -80°C for at least 3 months. Please avoid multiple freeze-thaw cycles and store products in aliquots.

Actual storage temperature shall be subject to the COA.

**Shipping:**  
In general, lyophilized powders are shipped with blue ice, while solutions are shipped with dry ice.

### Protein Background

The carcinoembryonic-antigen-related cell-adhesion molecule (CEACAM) family of proteins has been implicated in various intercellular-adhesion and intracellular-signalling-mediated effects that govern the growth and differentiation of normal and cancerous cells. CEACAM1, also known as biliary glycoprotein I (BGP I) and CD66a, is a member of the carcinoembryonic antigen (CEA) gene family which belongs to the immunoglobulin superfamily. The highly glycosylated CEACAM1 contains one N-terminal V-type Ig-like domain and three C2-type Ig-like

domains within its ECD, and one ITIM motif and a calmodulin binding site in the cytoplasmic region. CEACAM1 is a surface glycoprotein expressed on various blood cells, epithelial cells, and vascular cells. It was described as an adhesion molecule mediating cell adhesion via both homophilic and heterophilic manners, and was detected on leukocytes, epithelia, and endothelia. Studies have revealed that CEACAM1 performs actions in multiple cellular processes including tissue differentiation, angiogenesis, apoptosis, metastasis, as well as the modulation of innate and adaptive immune responses. Cancer Immunotherapy Co-inhibitory Immune Checkpoint Targets Immune Checkpoint Immune Checkpoint Detection: ELISA Antibodies Immune Checkpoint Detection: FCM Antibodies Immune Checkpoint Detection: ICC Antibodies Immune Checkpoint Detection: IHC Antibodies Immune Checkpoint Detection: WB Antibodies Immune Checkpoint Proteins Immune Checkpoint Targets Immunotherapy Targeted Therapy

### Reference

Gray-Owen SD, et al. (2006) CEACAM1: contact-dependent control of immunity. *Nat Rev Immunol.* 6(6): 433-46.  
Gu A, et al. (2009) Role of Ceacam1 in VEGF induced vasculogenesis of murine embryonic stem cell-derived embryoid bodies in 3D culture. *Exp Cell Res.* 315(10): 1668-82.  
Wong C, et al. (2009) CEACAM1 negatively regulates platelet-collagen interactions and thrombus growth in vitro and in vivo. *Blood.* 113(8): 1818-28.

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