Recombinant Human EPCAM Protein, His tagged

Cat. No. EPCAM-146H **Lot. No.** (See product label)

SPECIFICATION

Product Overview	Recombinant Human Trop1 (Gln24-Lys265) with C-terminus His tag is expressed in CHO cell.
Species	Human
Source	CHO
Conjugation/Label	24-265 aa
Description	Epithelial cell adhesion molecule (EpCAM), also known as CD326, TACSTD1, or EGP-2, is a type I transmembrane glycoprotein that plays crucial roles in cell adhesion, proliferation, migration, and differentiation. EpCAM is predominantly expressed on the basolateral surface of most normal epithelial tissues, where it mediates calcium-independent homophilic cell-cell adhesion. Beyond its structural role, EpCAM functions as a signaling molecule that regulates cell proliferation and stem cell maintenance. Upon regulated intramembrane proteolysis by ADAM17 and presenilin-2/γ-secretase, EpCAM releases an intracellular domain (EpICD) that translocates to the nucleus and associates with transcription factors to promote expression of genes involved in cell cycle progression, including c-myc and cyclin D1. Structurally, EpCAM is a 40 kDa protein consisting of an extracellular domain with two epidermal growth factor-like repeats and a thyroglobulin-like domain, a single transmembrane region, and a short cytoplasmic tail. The extracellular domain mediates homophilic interactions between EpCAM molecules on adjacent cells, forming cis-dimers on the same cell surface and trans-interactions between

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	neighboring cells. The cytoplasmic domain contains binding sites for α-actinin and other cytoskeletal proteins, linking EpCAM to the actin cytoskeleton and enabling its role in cell adhesion and migration. EpCAM primarily functions through homophilic binding (EpCAM-EpCAM interactions), though it can also interact with claudins and other tight junction proteins to modulate epithelial barrier function. The protein's signaling activity is regulated by proteolytic cleavage rather than traditional ligand-receptor mechanisms. EpCAM also interacts intracellularly with β-catenin and components of the Wnt signaling pathway, influencing stem cell properties and epithelial-mesenchymal transition. In disease contexts, EpCAM is overexpressed in numerous epithelial cancers, including colorectal, breast, lung, pancreatic, ovarian, and gastric carcinomas, where high expression correlates with aggressive tumor behavior, metastasis, and poor prognosis. EpCAM is also a marker of cancer stem cells in several tumor types. Therapeutically, EpCAM has been extensively targeted through multiple approaches. Catumaxomab, a trifunctional bispecific antibody targeting EpCAM and CD3, was approved for malignant ascites treatment. EpCAM-directed CAR-T cell therapies are under investigation for solid tumors, and the molecule serves as a target for circulating tumor cell detection and isolation. Additionally, EpCAM-targeted antibody-drug conjugates and vaccines are in clinical development, establishing EpCAM as an important biomarker and therapeutic target in oncology.
Form	Liquid, 1×PBS buffer, pH7.4, 0.22 μm filtered
Molecular Mass	The protein has a predicted molecular weight of 29 kDa. Under DTT-reducing conditions, it migrates at approximately 30-40 kDa on SDS-PAGE.
Purity	>95% based on SDS-PAGE under reducing condition
Applications	ELISA, BLI

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Storage	Briefly centrifuge the vial upon receipt. An unopened vial can be stored at 4 centigrade for up to 2 weeks, or at -20 centigrade or below for up to six months. The protein may be further diluted to 0.1 mg/mL using 0.22 μm-filtered PBS buffer (pH 7.4). For long-term storage, the diluted stock solution should be aliquoted and stored at ≤ –70 centigrade to minimize freeze-thaw cycles. If additional dilution is required, carrier proteins such as FBS or BSA should be added to maintain protein stability.
Concentration	25 μg size is bottled at 0.2 mg/mL concentration. 100 μg size is supplied at a lot-specific concentration.

GENE INFORMATION

Gene Name	EPCAM epithelial cell adhesion molecule [Homo sapiens (human)]
Official Symbol	EPCAM
Synonyms	EPCAM; epithelial cell adhesion molecule; antigen identified by monoclonal AUA1, M4S1, MIC18, TACSTD1, tumor associated calcium signal transducer 1; 17 1A; 323/A3; CD326; CO 17A; EGP 2; EGP34; EGP40; Ep CAM; ESA; GA733 2; HEA125; KS1/4; KSA; Ly74; MH99; MK 1; MOC31; TACST 1; TROP1; epithelial glycoprotein 314; human epithelial glycoprotein-2; cell surface glycoprotein Trop-1; adenocarcinoma-associated antigen; tumor-associated calcium signal transducer 1; major gastrointestinal tumor-associated protein GA733-2; membrane component, chromosome 4, surface marker (35kD glycoprotein); M4S1; MK-1; DIAR5; EGP-2; MIC18; EGP314; HNPCC8; TACSTD1; GA733-2;
Gene ID	4072
mRNA Refseq	NM_002354

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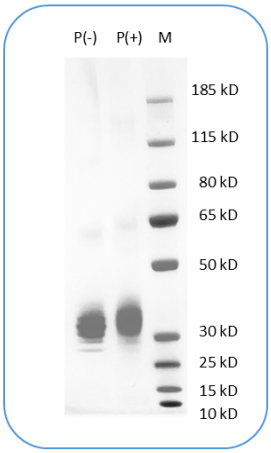
Protein Refseq	NP_002345
MIM	185535
UniProt ID	P16422
SDS-PAGE	 Human Trop1 Protein (C-His) on SDS-PAGE under reducing condition (P+) and non-reducing condition (P-). The gel was stained for 1 hour with BlinkBlue. The purity of this protein appears to be greater than 95% based on reducing conditions.

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