

DESCRIPTION

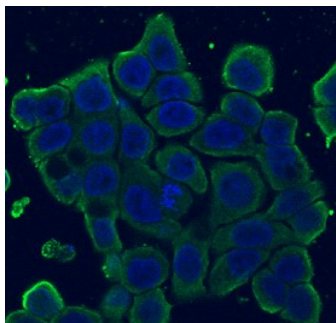
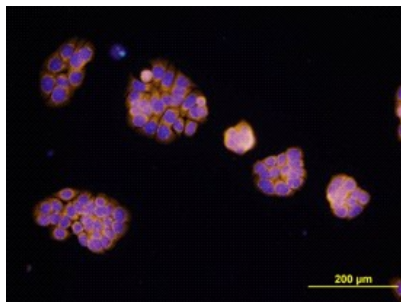
Species Reactivity	Human
Specificity	Detects human EpCAM in direct ELISAs and Western blots. This antibody detects an epitope found in the extracellular domain between amino acids 136 and 265. In direct ELISAs and Western blots, no cross-reactivity with recombinant human (rh) ALCAM, rhBCAM, rhMCAM, rhNCAM-L1, or rmOCAM is observed.
Source	Monoclonal Mouse IgG _{2A} Clone # 158210
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human EpCAM Gln24-Lys265 Accession # P16422
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied as a 0.2 µm filtered solution in PBS.

APPLICATIONS

Please Note: Optimal dilutions should be determined by each laboratory for each application. *General Protocols* are available in the *Technical Information* section on our website.

	Recommended Concentration	Sample
Western Blot	1 µg/mL	Recombinant Human EpCAM/TROP-1 Fc Chimera (Catalog # 960-EP)
Immunocytochemistry	8-25 µg/mL	See Below

DATA

Immunocytochemistry	Immunocytochemistry
 <p>EpCAM/TROP-1 in HT-29 Human Cell Line. EpCAM/TROP-1 was detected in immersion fixed HT-29 human colon adenocarcinoma cell line using Human EpCAM/TROP-1 Monoclonal Antibody (Catalog # MAB960) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 493-conjugated Anti-Mouse IgG Secondary Antibody (green; Catalog # NL009) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>	 <p>EpCAM/TROP-1 in HT-29 Human Cell Line. EpCAM/TROP-1 was detected in immersion fixed HT-29 human colon adenocarcinoma cell line using Human EpCAM/TROP-1 Monoclonal Antibody (Catalog # MAB960) at 10 µg/mL for 3 hours at room temperature. Cells were stained using the NorthernLights™ 557-conjugated Anti-Mouse IgG Secondary Antibody (yellow; Catalog # NL007) and counterstained with DAPI (blue). View our protocol for Fluorescent ICC Staining of Cells on Coverslips.</p>

PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below. *Small pack size (-SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage	Use a manual defrost freezer and avoid repeated freeze-thaw cycles. <ul style="list-style-type: none"> • 12 months from date of receipt, -20 to -70 °C as supplied. • 1 month, 2 to 8 °C under sterile conditions after reconstitution. • 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND

Epithelial Cellular Adhesion Molecule (EpCAM), also known as KS1/4, gp40, GA733-2, 17-1A, and TROP-1, is a 40 kDa transmembrane glycoprotein composed of a 242 amino acid (aa) extracellular domain with two epidermal-growth-factor-like (EGF-like) repeats within the cysteine-rich N-terminal region, a 23 aa transmembrane domain, and a 26 aa cytoplasmic domain. Human and mouse EpCAM share 82% aa sequence identity. In human, EpCAM also shares 49% aa sequence homology with Trop-2/EGP-1. During embryonic development, EpCAM is detected in fetal lung, kidney, liver, pancreas, skin, and germ cells. In adults, human EpCAM is detected in basolateral cell membranes of all simple, pseudo-stratified, and transitional epithelia, but is not detected in normal squamous stratified epithelia, mesenchymal tissue, muscular tissue, neuro-endocrine tissue, or lymphoid tissue (1). EpCAM expression has been found to increase in actively proliferating epithelia tissues and during adult liver regeneration (1, 2). EpCAM expression is also found to increase in human malignant neoplasias, with most carcinoma expressing EpCAM including those of arising from squamous epithelia (1). EpCAM has been shown function as a homophilic Ca²⁺ independent adhesion molecule (3). Homophilic adhesion via EpCAM requires the interaction of both EGF-like repeats, with the first EGF-like repeat mediating reciprocal interaction between EpCAM molecules on opposing cells, while the second repeat is involved in lateral interaction of EpCAM. Lateral interaction of EpCAM lead to the formation of dimers and tetramers (4). During homophilic adhesion the cytoplasmic tail of EpCAM interacts with the actin cytoskeleton via a direct association α-actinin (5).

References:

1. Balzar, M. *et al.* (1999) *J. Mol. Med.* **77**:699.
2. Boer, C.J. *et al.* (1999) *J. Pathol.* **188**:201.
3. Litvinow, S.V. *et al.* (1994) *J. Cell Biol.* **125**:437.
4. Balzar, M. *et al.* (2001) *Mol. Cell. Biol.* **21**:2570.
5. Balzar, M. *et al.* (1998) *Mol. Cell. Biol.* **18**:4388.