

DESCRIPTION

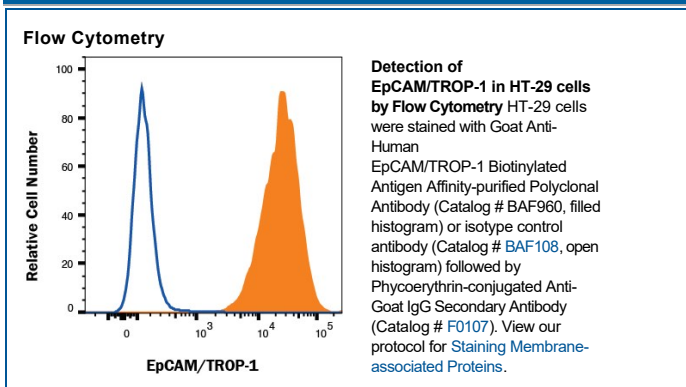
Species Reactivity	Human
Specificity	Detects human EpCAM/TROP-1 in sandwich immunoassays and Western blots. In sandwich immunoassays, less than 0.2% cross-reactivity with recombinant human (rh) ALCAM, rhBCAM, recombinant mouse MAdCAM-1, rhNCAM-1, and rhNCAM-L1 is observed.
Source	Polyclonal Goat IgG
Purification	Antigen Affinity-purified
Immunogen	Mouse myeloma cell line NS0-derived recombinant human EpCAM, extracellular domain Gln24-Lys265 Accession # CAA32870
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with BSA as a carrier protein.

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	0.1 µg/mL	Recombinant Human EpCAM/TROP-1 Fc Chimera (Catalog # 960-EP)
Flow Cytometry	2.5 µg/10 ⁶ cells	HT-29 human colon adenocarcinoma cell line
Human EpCAM/TROP-1 Sandwich Immunoassay		Reagent
ELISA Capture	2-8 µg/mL	Human EpCAM/TROP-1 Antibody (Catalog # MAB9601)
ELISA Detection Standard	0.1-0.4 µg/mL	Human EpCAM/TROP-1 Biotinylated Antibody (Catalog # BAF960) Recombinant Human EpCAM/TROP-1 Fc Chimera (Catalog # 960-EP)

DATA



PREPARATION AND STORAGE

Reconstitution	Reconstitute at 0.2 mg/mL in sterile PBS.
Shipping	The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
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.