

DESCRIPTION

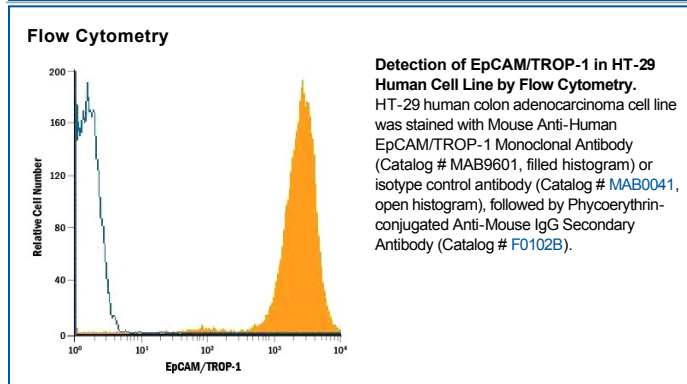
Species Reactivity	Human
Specificity	Detects human EpCAM/TROP-1 in ELISAs.
Source	Monoclonal Mouse IgG _{2B} Clone # 158206
Purification	Protein A or G purified from hybridoma culture supernatant
Immunogen	Mouse myeloma cell line NS0-derived recombinant human EpCAM/TROP-1 Extracellular domain
Formulation	Lyophilized from a 0.2 µm filtered solution in PBS with Trehalose. See Certificate of Analysis for details. *Small pack size (-SP) is supplied either lyophilized or 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
Flow Cytometry	2.5 µg/10 ⁶ cells	See Below
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)
CyTOF-ready	Ready to be labeled using established conjugation methods. No BSA or other carrier proteins that could interfere with conjugation.	

DATA



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.