

## DESCRIPTION

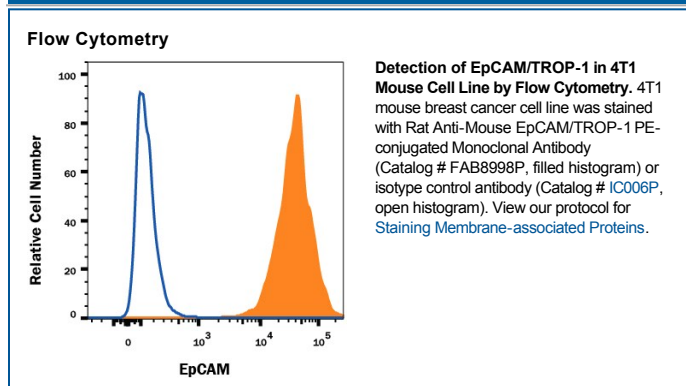
<b>Species Reactivity</b>	Mouse
<b>Specificity</b>	Detects mouse EpCAM/TROP-1 in flow cytometry.
<b>Source</b>	Recombinant Monoclonal Rat IgG <sub>2A</sub> Clone # G8.8R
<b>Purification</b>	Protein A or G purified from cell culture supernatant
<b>Immunogen</b>	TE-71 Thymic epithelial cell line
<b>Conjugate</b>	Phycoerythrin Excitation Wavelength: 488 nm Emission Wavelength: 565-605 nm
<b>Formulation</b>	Supplied in a saline solution containing BSA and Sodium Azide. See Certificate of Analysis for details.  *Contains <0.1% Sodium Azide, which is not hazardous at this concentration according to GHS classifications. Refer to the Safety Data Sheet (SDS) for additional information and handling instructions.

## 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
<b>Flow Cytometry</b>	10 $\mu$ L/10 <sup>6</sup> cells	See Below

## DATA



## PREPARATION AND STORAGE

<b>Shipping</b>	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
<b>Stability &amp; Storage</b>	<b>Protect from light. Do not freeze.</b> ● 12 months from date of receipt, 2 to 8 °C as supplied.

## BACKGROUND

Epithelial Cellular Adhesion Molecule (EpCAM), also known as ECD326 and TROP-1 is a 36-41 kDa member of the TROP family of molecules (1, 2). It is a type I transmembrane glycoprotein that is found on embryonic stem cells and adult non-squamous epithelium such as (respiratory) pseudostratified, (mammary) cuboid, and (colon) simple columnar epithelium. In mouse, the molecule has also been reported on T cells, Langerhans cells and thymic epithelium. Mature mouse EpCAM is 292 amino acids (aa) in length. It possesses a 243 aa extracellular region that contains one thyroglobulin type I domain. Such domains are associated with cathepsin binding and inhibition (2). On the cell surface, EpCAM is reported to participate in TEM (Tetraspanin-enriched microdomain) formation in concert with CD44v6, CD9, ADAM10, Claudin-7 and TS8. It is also noted to form homodimers *in-cis* and homotetramers *in-trans*. Although this would suggest the EpCAM acts as an adhesion molecule, in effect it does not, instead acting as a disruptor of the E-Cadherin:cytoskeleton interaction, and thus promoting cell migration (1, 2). The extracellular domain (ECD) of EpCAM undergoes multiple cleavages, principally between Ser200 and Ala210 (3). Cleavage at the Arg80-Arg81 site does not generate a soluble fragment, but rather a disulfide-linked "heterodimer" (3). Cleavage after Gly264 in the juxtamembrane region is followed by secretase cleavage of the transmembrane fragment, generating an ICD that translocates to the nucleus (4). The ECD of mouse EpCAM shares 81% and 90% aa sequence identity with human and rat EpCAM, respectively.

### References:

1. Schnell, U. *et al.* (2013) *Biochim. Biophys. Acta* **1828**:1989.
2. Martowicz, A. *et al.* (2015) *Histol. Histopathol.* **Oct 23**:11678 [ePub ahead of print].
3. Schnell, U. *et al.* (2013) *Biosci. Rep.* **33**:e00030.
4. Hachmeister, M. *et al.* (2013) *PLoS ONE* **8**:e71836.