Mouse EpCAM/TROP-1 Alexa Fluor® 647-conjugated Antibody

Recombinant Monoclonal Rat IgG_{2A} Clone # G8.8R

Catalog Number: FAB8998R

DESCRIPTION

Species Reactivity	Mouse
Specificity	Detects mouse EpCAM/TROP-1 in flow cytometry.
Source	Recombinant Monoclonal Rat IgG_{2A} Clone # G8.8R
Purification	Protein A or G purified from cell culture supernatant
Immunogen	TE-71 Thymic epithelial cell line
Conjugate	Alexa Fluor 647 Excitation Wavelength: 650 nm Emission Wavelength: 668 nm
Formulation	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.

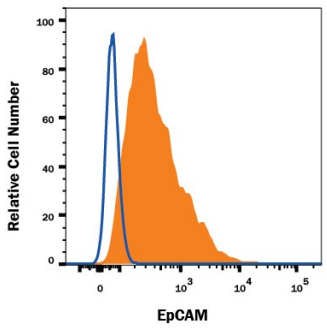
APPLICATIONS

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
Flow Cytometry	5 µL/10^6 cells	See Below

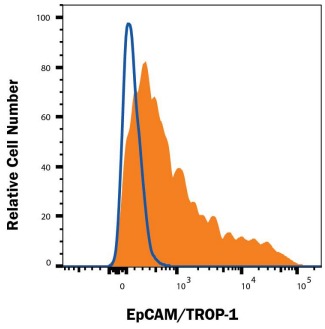
DATA

Flow Cytometry



Detection of EpCAM/TROP-1 in 4T1 Mouse Cell Line by Flow Cytometry. 4T1 mouse breast cancer cell line was stained with Rat Anti-Mouse EpCAM/TROP-1 Alexa Fluor® 647-conjugated Monoclonal Antibody (Catalog # FAB8998R, filled histogram) or isotype control antibody (Catalog # IC006R, open histogram). View our protocol for Staining Membrane-associated Proteins.

Flow Cytometry



Detection of EpCAM/TROP-1 in mIMCD3 Mouse Cell Line by Flow Cytometry mIMCD3 mouse kidney cell line was stained with Rat Anti-Mouse EpCAM/TROP-1 Alexa Fluor® 647-conjugated Monoclonal Antibody (Catalog # FAB8998R, filled histogram) or isotype control antibody (Catalog # IC006R, open histogram). View our protocol for Staining Membrane-associated Proteins.

PREPARATION AND STORAGE

Shipping	The product is shipped with polar packs. Upon receipt, store it immediately at the temperature recommended below.
Stability & Storage	**Protect from light. Do not freeze.** • 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 meolcules (1, 2). It is a type I transmembrane glycoprotein that is found on embryonic stem cells and adult non-squamous epithelium such as (respiratory) psuedostratified, (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.

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