

PRODUCT INFORMATION



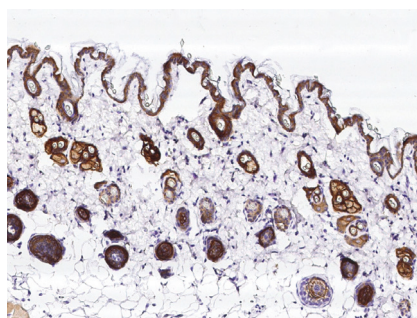
TROP2 Rabbit Monoclonal Antibody (Clone 046)

Item No. 38093

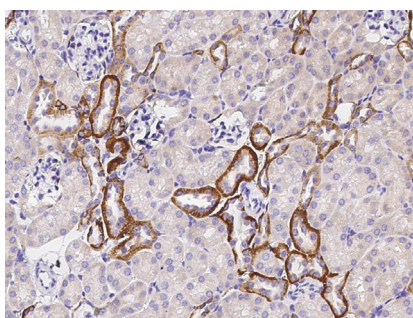
Overview and Properties

Contents:	This vial contains 50 or 100 µl of protein A-affinity purified monoclonal antibody.
Synonyms:	Cell Surface Glycoprotein TROP-2, Membrane Component 1 Surface Marker 1, M1S1, TACSTD2, Trophoblast Cell Surface Antigen 2, Tumor-Associated Calcium Signal Transducer 2
Immunogen:	Recombinant mouse Trop2
Cross Reactivity:	(+) Trop2
Species Reactivity:	(+) Mouse
Storage:	-80°C (as supplied)
Stability:	≥1 year
Storage Buffer:	0.2 µm filtered solution in PBS
Clone:	046
Host:	Rabbit
Isotype:	IgG
Applications:	Immunohistochemistry (IHC; paraffin); the recommended starting dilution is 1:10,000-1:20,000. Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

Images



Immunohistochemical labeling of TACSTD2 in mouse skin using TROP2 Rabbit Monoclonal Antibody (Clone 046) at a dilution of 1:20,000.



Immunohistochemical labeling of TACSTD2 in mouse kidney using TROP2 Rabbit Monoclonal Antibody (Clone 046) at a dilution of 1:20,000.

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

WARRANTY AND LIMITATION OF REMEDY
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

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Description

Trophoblast cell surface antigen 2 (TROP2), also known as tumor-associated calcium signal transducer 2 (TACSTD2), is a transmembrane glycoprotein and epithelial cell adhesion molecule (EpCAM) family member.^{1,2} It is composed of a signal peptide, an extracellular domain, which contains a cysteine-rich domain, thyroglobulin type-I domain, putative EGF-like domain, and cysteine-poor domain, a transmembrane domain, and a cytoplasmic tail, which contains a HIKE domain, PKC phosphorylation site, and a PtdIns-(4,5)-P₂ (PIP₂) binding site. *Tacstd2* is expressed in trophoblasts, kidney, lung, ovary, and testis and localizes to the cell membrane and cytoplasm.²⁻⁵ TROP2 is involved in embryonic and fetal development, cell adhesion, migration, and proliferation and interacts with β -catenin, $\alpha 5 \beta 1$ integrin, and insulin-like growth factor 1 (IGF-1), among others.² TROP2 is highly expressed in various cancer tissues, and overexpression of TACSTD2 increases metastasis in a colon cancer mouse xenograft model.^{2,6} Loss-of-function mutations in TACSTD2 result in gelatinous drop-like corneal dystrophy.⁵ Formulations containing an antibody-drug conjugate targeting TROP2 have been used in the treatment of triple-negative breast cancer (TNBC) and urothelial cancer. Cayman's TROP2 Rabbit Monoclonal Antibody (Clone 046) can be used for immunohistochemistry (IHC; paraffin).

References

1. McDougall, A.R.A., Tolcos, M., Hooper, S.B., *et al.* *Trop2*: From development to disease. *Dev. Dyn.* **244**(2), 99-109 (2014).
2. Lenárt, S., Lenárt, P., Šmarda, J., *et al.* *Trop2*: Jack of all trades, master of none. *Cancers (Basel)* **12**(11), 3328 (2020).
3. Lipinski, M., Parks, D.R., Rouse, R.V., *et al.* Human trophoblast cell-surface antigens defined by monoclonal antibodies. *Proc. Natl. Acad. Sci. USA* **78**(8), 5147-5150 (1981).
4. El Sewedy, T., Fornaro, M., and Alberti, S. Cloning of the murine *TROP2* gene: Conservation of a PIP₂-binding sequence in the cytoplasmic domain of TROP-2. *Int. J. Cancer* **75**(2), 324-330 (1998).
5. Tsujikawa, M., Kurahashi, H., Tanaka, T., *et al.* Identification of the gene responsible for gelatinous drop-like corneal dystrophy. *Nat. Genet.* **21**(4), 420-423 (1999).
6. Guerra, E., Trerotola, M., Relli, V., *et al.* Trop-2 induces ADAM10-mediated cleavage of E-cadherin and drives EMT-less metastasis in colon cancer. *Neoplasia* **23**(9), 898-911 (2021).

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