TROP-2 (F-5): sc-376181

SANTA CRUZ®
BIOTECHNOLOGY

The Power to Question

BACKGROUND

TROP-2, also known as tumor-associated calcium signal transducer 2 (TACSTD2), pancreatic carcinoma marker protein GA733-1, membrane component chromosome 1, surface marker 1 (M1S1) or epithelial glycoprotein-1 (EGP-1), is a cell surface glycoprotein receptor. It is a single pass type I membrane protein containing one thryoglobulin type-1 domain, an epidermal growth factor-like repeat, a phosphatidylinositol binding site and tyrosine phosphorylation sites near the C-terminus. TROP-2 plays a role in tranducing intracellular calcium signals. It is expressed in trophoblast cells, cornea and multistratified epithelia. It is also highly expressed in several types of tumors and is involved in regulating the growth of carcinoma cells. Mutations in the gene encoding TROP-2 can result in gelatinous drop-like corneal dystrophy (GDLD) also referred to as lattice corneal dystrophy type III, an autosomal recessive disorder that causes severe visual impairment.

CHROMOSOMAL LOCATION

Genetic locus: TACSTD2 (human) mapping to 1p32.1; Tacstd2 (mouse) mapping to 6 C1.

SOURCE

TROP-2 (F-5) is a mouse monoclonal antibody raised against amino acids 131-210 mapping within an extracellular domain of TROP-2 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG$_1$ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

TROP-2 (F-5) is available conjugated to agarose (sc-376181 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-376181 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376181 PE), fluorescein (sc-376181 FITC), Alexa Fluor® 488 (sc-376181 AF488), Alexa Fluor® 546 (sc-376181 AF546), Alexa Fluor® 594 (sc-376181 AF594) or Alexa Fluor® 647 (sc-376181 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376181 AF680) or Alexa Fluor® 790 (sc-376181 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

TROP-2 (F-5) is recommended for detection of TROP-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for TROP-2 siRNA (h): sc-72392, TROP-2 siRNA (m): sc-72393, TROP-2 shRNA Plasmid (h): sc-72392-SH, TROP-2 shRNA Plasmid (m): sc-72393-SH, TROP-2 shRNA (h) Lentiviral Particles: sc-72392-V and TROP-2 shRNA (m) Lentiviral Particles: sc-72393-V.
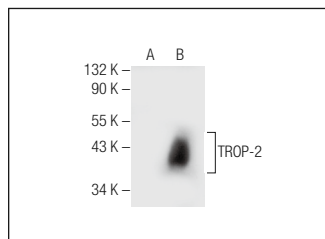
Molecular Weight of TROP-2: 40 kDa.

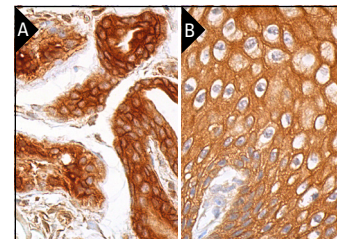Positive Controls: TROP-2 (h): 293T Lysate: sc-176454.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA

TROP-2 (F-5): sc-376181. Western blot analysis of TROP-2 expression in non-transfected: sc-117752 (**A**) and human TROP-2 transfected: sc-176454 (**B**) 293T whole cell lysates.

TROP-2 (F-5): sc-376181. Immunoperoxidase staining of formalin fixed, paraffin-embedded human sweat gland tissue showing membrane and cytoplasmic staining of glandular cells (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human uterine cervix tissue showing membrane and cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Bychkov, A., et al. 2016. TROP-2 immunohistochemistry: a highly accurate method in the differential diagnosis of papillary thyroid carcinoma. Pathology 48: 425-433.

2. Avellini, C., et al. 2017. The trophoblast cell surface antigen 2 and miR-125b axis in urothelial bladder cancer. Oncotarget 8: 58642-58653.

3. Liu, H., et al. 2017. The potential diagnostic utility of TROP-2 in thyroid neoplasms. Appl. Immunohistochem. Mol. Morphol. 25: 525-533.

4. Xi, W., et al. 2018. Incorporation of CD40 ligand enhances the immuno-genicity of tumor-associated calcium signal transducer 2 virus-like particles against lung cancer. Int. J. Mol. Med. 41: 3671-3679.

5. Abdou, A.G., et al. 2019. Diagnostic value of TROP-2 and CK19 expression in papillary thyroid carcinoma in both surgical and cytological specimens. Clin. Pathol. 12: 2632010X19863047.

6. Fu, D.J., et al. 2020. Cells expressing PAX8 are the main source of homeo-static regeneration of adult endometrial epithelium and give rise to serous endometrial carcinoma. Dis. Model. Mech. 13: dmm047035.

7. Chuang, H.W., et al. 2021. Immunohistochemistry helps to distinguish noninvasive follicular thyroid neoplasm with papillary-like nuclear features/ noninvasive encapsulated follicular variant of papillary thyroid carcinoma with other follicular thyroid lesions. Medicina 57: 1246.

8. Toda, S., et al. 2022. TROP-2, Nectin-4, GPNMB, and B7-H3 are potentially therapeutic targets for anaplastic thyroid carcinoma. Cancers 14: 579.

9. Tomiyama, E., et al. 2022. Trop-2 in upper tract urothelial carcinoma. Curr. Oncol. 29: 3911-3921.

RESEARCH USE

For research use only, not for use in diagnostic procedures.