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Anti- TACSTD2 / Trop2 Antibody MSVA-733R / Recombinant Rabbit monoclonal

Human SwissProt	P09758
Human Gene Symbol	TACSTD2
Synonyms	Cell surface glycoprotein Trop-2; Membrane Component Chromosome 1, Surface Marker 1 (M1S1); Pancreatic Carcinoma Marker Protein GA733-1; TROP2; Tumor-Associated Calcium Signal Transducer 2 (TACSTD2)
Specificity	TACSTD2
Immunogen	Recombinant fragment of human TACSTD2 protein
lsotype	Rabbit / IgG
Species Reactivity	Human

Localization	Cell Surface
Storage & Stability	Antibody with azide – store at 2 to 8 C. Antibody without azide – store at -20 to -80 C. Antibody is stable for 24 months. Non- hazardous. No MSD required.
Supplied As	200ug/ml of Ab Purified from Bioreactor Concentrate by Protein A/G. Prepared in 10mM PBS with 0.05% BSA & 0.05% azide. Also available without BSA
Positive Control	Liver: A strong membranous Trop-2 immunostaining should be seen in bile ducts.
Negative Control	Liver: Hepatocytes should not show any Trop-2 immunostaining.



Liver - Strong TACSTD2 staining in intrahepatic bile ducts of the liver.



Strong TACSTD2 immunostaining of a triple negative breast cancer of no special type (NST).



Kidney, cortex - In the kidney, TACSTD2 immunostaining is strong in distal tubuli and collecting ducts but weaker in the parietal layer of the Bowman capsule.

Biology

Trophoblast cell surface antigen 2 (Trop-2), also known as Tumor-associated calcium signal transducer 2 (TACSTD2) is a membranous glycoprotein coded by the TACSTD2 gene at chromosome 1p32. The Trop-2 protein is composed of a large extracellular domain, a single transmembrane domain, and a short intracellular tail which is the functionally dominant part of the protein transducing an intracellular calcium signal. Trop-2 acts as a cell surface receptor with a role in self-renewal, proliferation, and transformation of cells. In embryonic development, Trop-2 is critical for placental formation, embryo implantation, stem cell proliferation, and organ development. Trop-2 can be found overexpressed in many cancer types. Trop-2 expression is impacted by several oncogenic transcription factors such as CREB1, NF-KB, HOXA10, HNF4A, TP63, TP53, ERG, HNF1A/TCF-1, and FOXP3. Trop-2 is the target of sacituzumab govitecan, an antibody-drug conjugate which has been approved for treatment of triple negative breast cancer. In normal tissues, a predominantly membranous Trop-2 immunostaining occurs in a broad range of epithelial cells including squamous epithelia, gallbladder epithelium, intrahepatic bile ducts, pancreas, salivary glands, breast, fallopian tube, endocervix, endometrium, urothelium, prostate, seminal vesicle, epididymis, respiratory epithelium, bronchial glands, pneumocytes, amnion, chorion, and the cytotrophoblast. In the kidney, a strong Trop-2 immunostaining occurs in distal tubuli and collecting ducts while staining is weak to moderate in the parietal layer of the Bowman capsule. In the gastrointestinal tract, the strongest staining occurs in the superficial epithelial cells of the stomach while only few scattered Trop-2 positive cells exist in the duodenum, ileum, appendix, and colon. In tonsil and lymph nodes, a fraction of germinal centre cells shows a weak Trop-2 staining. Trop-2 staining is always

absent in Brunner glands, hepatocytes, testis, decidua cells, ovary, adrenal gland, parathyroid gland, aorta, fat, muscles of all types, and the brain.

Potential Research Applications

-the predictive and prognostic role of Trop-2 expression in cancer requires further evaluation.

-it is currently unclear whether the extent of Trop-2 expression in tumor cells predicts a response to anti-Top-2 drugs.

-the prevalence of Trop-2 overexpression is unclear for many tumor entities.

Protocol Suggestions

Dilution: 1:150 ; pH 7,8 is optimal. Freshly cut sections should be used (less than 10 days between cutting and staining deteriorates staining intensity for most antibodies in IHC).

Limitations

This antibody is available for **research use only** and is not approved for use in diagnostics.

Warranty

There are no warranties, expressed or implied, which extend beyond this description. MSVA is not liable for any personal injury or economic loss resulting from this product.



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Adrenal gland



Epididymis - Trop-2 staining is most prominent in basal cells, but tall columnar cells also show a variable staining



Kidney, cortex - A strong Trop-2 immunostaining occurs in distal tubuli and collecting ducts while staining is weak to moderate in the parietal layer of the Bowman capsule



Seminal vesicle



Bone marrow - A small subset of positive cells is seen in the bone marrow, perhaps reflecting granulocytes and their precursor cells



Esophagus, squamous epithelium



Pancreas - A strong positivity is seen in excretory and intercalated ducts while acinar cells show a variable staining intensity predominantly occurring at the apical membranes



Stomach, antrum - The superficial epithelial cell layers of the stomach can stain Trop-2 positive



Breast - A strong Trop-2 immunostaining is seen in all epithelial cells of breast glands



Fallopian tube, mucosa



Placenta, mature - Trop-2 staining is strongest in the cytotrophoblast of the placenta. An additional superficial membranous staining occurs in the syncytiotrophoblast of



Tonsil - In the tonsil, a strong Trop-2 staining is seen in squamous epithelium of the crypts. In addition, a faint Trop-2 staining occurs in a fraction of germinal centre cells



Bronchus, mucosa - A strong Trop-2 positivity is seen in all cells of the respiratory epithelium



Gallbladder, epithelium - A strong Trop-2 staining is seen in all epithelial cells of the gallbladder epithelium



Prostate



Urinary bladder, urothelium - A strong, predominantly membranous Trop-2 staining occurs in the urothelium. All cell layers are equally stained