Anti-TROP2 Antibody [PSH22-14]

HA724275

Product Type:	Recombinant Rabbit monoclonal IgG, primary antibodies
Species reactivity:	Human, Mouse, Rat
Applications:	WB, IF-Cell, IHC-Fr, IHC-P, IF-Tissue
Molecular Wt:	Predicted band size: 36 kDa
Clone number:	PSH22-14

Description: Tumor-associated calcium signal transducer 2, also known as Trop-2 and as epithelial glycoprotein-1 antigen (EGP-1) is a protein that in humans is encoded by the TACSTD2 gene. Mutations of this gene result in gelatinous drop-like corneal dystrophy, an autosomal recessive disorder characterized by severe corneal amyloidosis leading to blindness. Trop-2 expression was originally described in trophoblasts (placenta) and fetal tissues (e.g., lung). Later, its expression was also described in the normal stratified squamous epithelium of the skin, uterine cervix, esophagus, and tonsillar crypts. Trop-2 plays a role in tumor progression by actively interacting with several key molecular signaling pathways traditionally associated with cancer development and progression. Aberrant overexpression of Trop-2 has been described in several solid cancers, such as colorectal, renal, lung, and breast cancers. Trop-2 expression has also been described in some rare and aggressive malignancies, e.g., salivary duct, anaplastic thyroid, uterine/ovarian, and neuroendocrine prostate cancers. This overexpression is caused by deregulations at a transcriptional and posttranscriptional level.

Positive control: MDA-MB-468 cell lysate, MCF7 cell lysate, SK-Br-3 cell lysate, A431 cell lysate, Mouse skin tissue lysate, Mouse lung tissue lysate, Rat skin tissue lysate, Rat lung tissue lysate, MCF7, human breast cancer tissue, human breast ductal carcinoma tissue, human cervical squamous cell carcinoma tissue, human urothelial carcinoma tissue, human prostate cancer tissue, human kidney tissue, human skin tissue, mouse kidney tissue, mouse skin tissue, rat skin tissue.

Subcellular location: Membrane.

Database links: SwissProt: P09758 Human | Q8BGV3 Mouse
Entrez Gene: 494343 Rat

Recommended Dilutions:

WB	1:2,000-1:5,000
IF-Cell	1:2,500
IHC-Fr	1:500
IHC-P	1:1,000
IF-Tissue	1:400

Storage Buffer: PBS (pH7.4), 0.1% BSA, 40% Glycerol. Preservative: 0.05% Sodium Azide.

Storage Instruction: Shipped at 4℃. Store at +4℃ short term (1-2 weeks). It is recommended to aliquot into single-use upon delivery. Store at -20℃ long term.

Purity: Protein A affinity purified.

Images

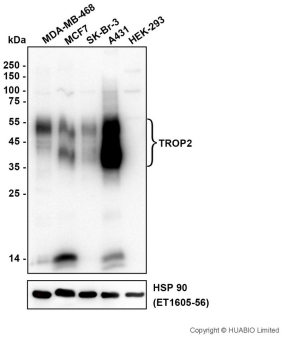

Fig1: Western blot analysis of TROP2 on different lysates with Rabbit anti-TROP2 antibody (HA724275) at 1/5,000 dilution.

Lane 1: MDA-MB-468 cell lysate (10 µg/Lane)
Lane 2: MCF7 cell lysate (10 µg/Lane)
Lane 3: SK-Br-3 cell lysate (10 µg/Lane)
Lane 4: A431 cell lysate (10 µg/Lane)
Lane 5: HEK-293 cell lysate (negative) (10 µg/Lane)

Predicted band size: 36 kDa
Observed band size: 40-60 kDa

Exposure time: 10 seconds; ECL: K1801;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA724275) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Negative control: HEK-293 (PMID: 38250577).

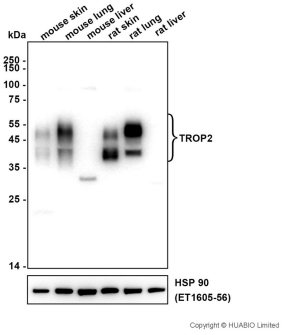

Fig2: Western blot analysis of TROP2 on different lysates with Rabbit anti-TROP2 antibody (HA724275) at 1/5,000 dilution.

Lane 1: Mouse skin tissue lysate (20 µg/Lane)
Lane 2: Mouse lung tissue lysate (20 µg/Lane)
Lane 3: Mouse liver tissue lysate (negative) (20 µg/Lane)
Lane 4: Rat skin tissue lysate (20 µg/Lane)
Lane 5: Rat lung tissue lysate (20 µg/Lane)
Lane 6: Rat liver tissue lysate (negative) (20 µg/Lane)

Predicted band size: 36 kDa
Observed band size: 40-60 kDa

Exposure time: 20 seconds; ECL: K1801;
4-20% SDS-PAGE gel.

Proteins were transferred to a PVDF membrane and blocked with 5% NFDM/TBST for 1 hour at room temperature. The primary antibody (HA724275) at 1/5,000 dilution was used in primary antibody dilution (K1803) at 4℃ overnight. Goat Anti-Rabbit IgG - HRP Secondary Antibody (HA1001) at 1/50,000 dilution was used for 1 hour at room temperature.

Negative control: liver tissue (PMID: 38250577).

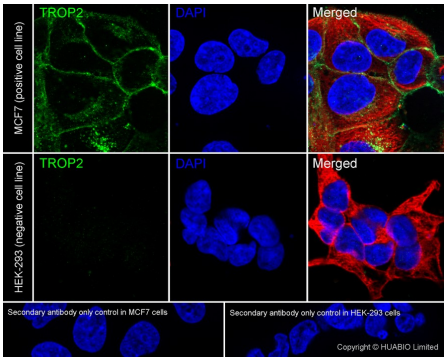

Fig3: Immunocytochemistry analysis of MCF7 (positive) and HEK-293 (negative) labeling TROP2 with Rabbit anti-TROP2 antibody (HA724275) at 1/2,500 dilution.

Cells were fixed in 4% paraformaldehyde for 15 minutes at room temperature, permeabilized with 0.1% Triton X-100 in PBS for 15 minutes at room temperature, then blocked with 1% BSA in 10% negative goat serum for 1 hour at room temperature. Cells were then incubated with Rabbit anti-TROP2 antibody (HA724275) at 1/2,500 dilution in 1% BSA in PBST overnight at 4 ℃. Goat Anti-Rabbit IgG H&L (iFluor™ 488, HA1121) was used as the secondary antibody at 1/1,000 dilution. PBS instead of the primary antibody was used as the secondary antibody only control. Nuclear DNA was labelled in blue with DAPI.

Beta tubulin (HA601187, red) was stained at 1/100 dilution overnight at +4℃. Goat Anti-Mouse IgG H&L (iFluor™ 594, HA1126) was used as the secondary antibody at 1/1,000 dilution.

Negative control: HEK-293 (PMID: 38250577).

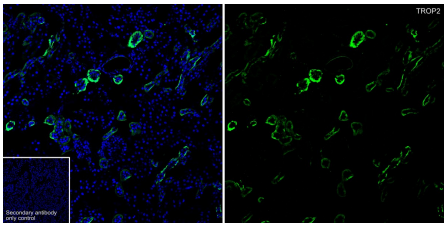

Fig4: Application: IHC-Fr

Species: Mouse

Site: kidney

Sample: Frozen section

Antibody concentration: 1/500

Antigen retrieval: Not required

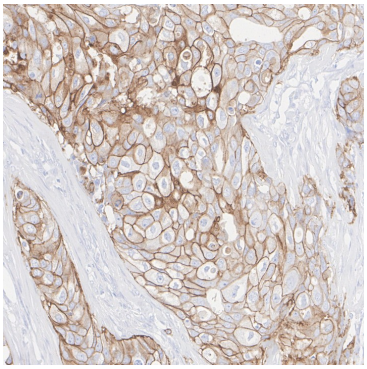

Fig5: Immunohistochemical analysis of paraffin-embedded human breast cancer tissue with Rabbit anti-TROP2 antibody (HA724275) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA724275) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

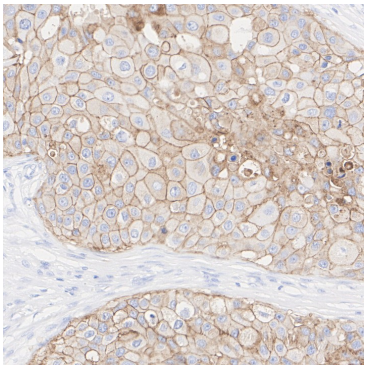

Fig6: Immunohistochemical analysis of paraffin-embedded human breast ductal carcinoma tissue with Rabbit anti-TROP2 antibody (HA724275) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA724275) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

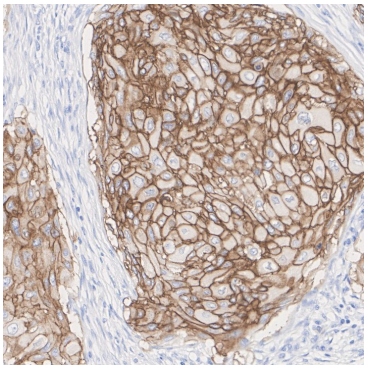

Fig7: Immunohistochemical analysis of paraffin-embedded human cervical squamous cell carcinoma tissue with Rabbit anti-TROP2 antibody (HA724275) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA724275) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

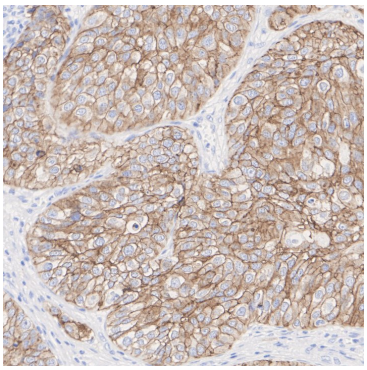

Fig8: Immunohistochemical analysis of paraffin-embedded human urothelial carcinoma tissue with Rabbit anti-TROP2 antibody (HA724275) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA724275) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

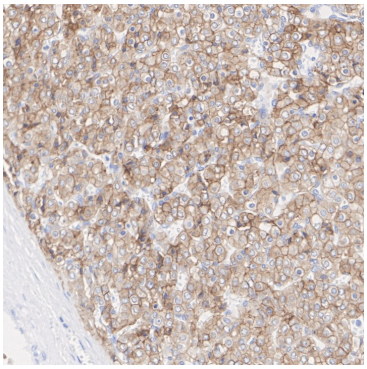

Fig9: Immunohistochemical analysis of paraffin-embedded human prostate cancer tissue with Rabbit anti-TROP2 antibody (HA724275) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA724275) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

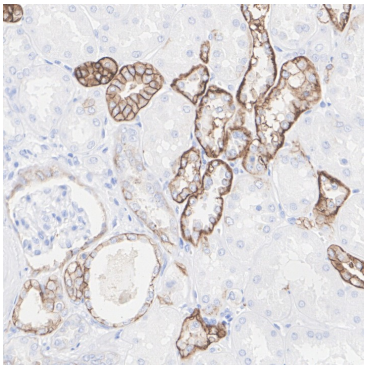

Fig10: Immunohistochemical analysis of paraffin-embedded human kidney tissue with Rabbit anti-TROP2 antibody (HA724275) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA724275) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

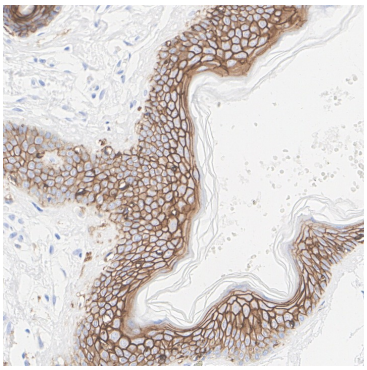

Fig11: Immunohistochemical analysis of paraffin-embedded human skin tissue with Rabbit anti-TROP2 antibody (HA724275) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA724275) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

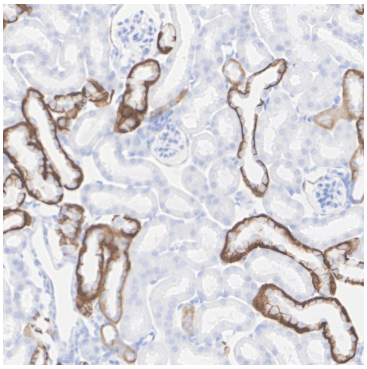

Fig12: Immunohistochemical analysis of paraffin-embedded mouse kidney tissue with Rabbit anti-TROP2 antibody (HA724275) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA724275) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

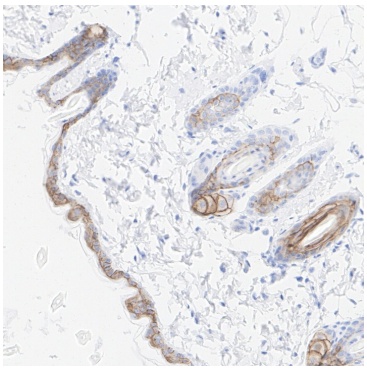

Fig13: Immunohistochemical analysis of paraffin-embedded mouse skin tissue with Rabbit anti-TROP2 antibody (HA724275) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA724275) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

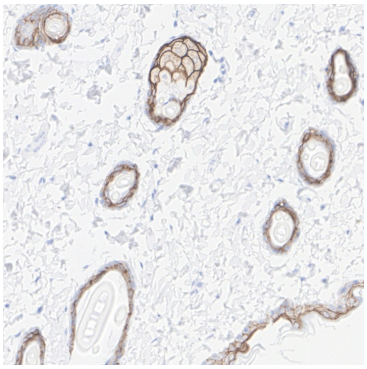

Fig14: Immunohistochemical analysis of paraffin-embedded rat skin tissue with Rabbit anti-TROP2 antibody (HA724275) at 1/1,000 dilution.

The section was pre-treated using heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0) for 20 minutes. The tissues were blocked in 1% BSA for 20 minutes at room temperature, washed with ddH_2O and PBS, and then probed with the primary antibody (HA724275) at 1/1,000 dilution for 1 hour at room temperature. The detection was performed using an HRP conjugated compact polymer system. DAB was used as the chromogen. Tissues were counterstained with hematoxylin and mounted with DPX.

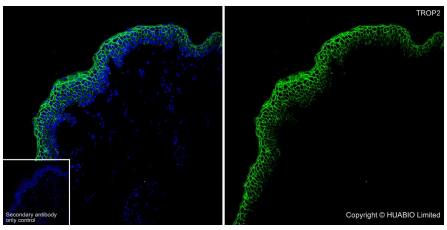

Fig15: Application: IF-Tissue

Species: Human

Site: skin

Sample: Paraffin-embedded section

Antibody concentration: 1/400

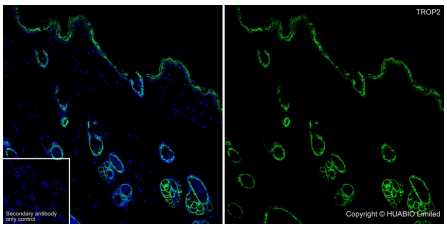

Fig16: Application: IF-Tissue

Species: Rat

Site: skin

Sample: Paraffin-embedded section

Antibody concentration: 1/400

Note: All products are "FOR RESEARCH USE ONLY AND ARE NOT INTENDED FOR DIAGNOSTIC OR THERAPEUTIC USE".

Background References

1. Tang W et al. Targeting Trop2 by Bruceine D suppresses breast cancer metastasis by blocking Trop2/beta-catenin positive feedback loop. J Adv Res. 2024 Apr
2. Chou J et al. TROP2 Expression Across Molecular Subtypes of Urothelial Carcinoma and Enfortumab Vedotin-resistant Cells. Eur Urol Oncol. 2022 Dec