abcam

ab228968

Anti-Tissue Factor antibody [EPR22548-232]

Anti-Tissue Factor antibody [EPR22548-232] (ab228968) is a rabbit monoclonal antibody detecting Tissue Factor in **Western Blot, Flow Cytometry, IP, IHC-P, ICC/IF**. Suitable for **Human**.

- KO validated for confirmed specificity
- Biophysical QC for unrivalled batch-batch consistency

Recombinant | RabMAb | KO Validated | 20ul selling size

Key facts

Isotype	IgG
Host species	Rabbit
Storage buffer	pH: 7.2 - 7.4 Preservative: 0.01% Sodium azide Constituents: PBS, 40% Glycerol (glycerin, glycerine), 0.05% BSA
Form	Liquid
Clonality	Monoclonal
Immunogen	The exact immunogen used to generate this antibody is proprietary information.
Clone number	EPR22548-232
Purification technique	Affinity purification Protein A
Concentration	0.481 mg/mL The concentration of this product may be batch-dependent Batch concentration finder →

Reactivity data

IP

Tested

Species	Human

Dilution info	1/30
Notes	-

Flow Cyt

Tested

Species	Human
Dilution info	1/500
Notes	-

WB

Tested

Species	Human
Dilution info	1/1000
Notes	-

ICC/IF

Tested

Species	Human
Dilution info	1/100
Notes	-

IHC-P

Tested

Species	Human
Dilution info	1/500
Notes	Perform heat-mediated antigen retrieval with Tris/EDTA buffer pH 9.0 before commencing with IHC staining protocol.

Target data

See full target information F3

Function	Initiates blood coagulation by forming a complex with circulating factor VII or VIIa. The [TF:VIIa] complex activates factors IX or X by specific limited proteolysis. TF plays a role in normal hemostasis by initiating the cell-surface assembly and propagation of the coagulation protease cascade.

Storage

Shipped at conditions	Conditional Ambient
Appropriate short-term storage duration	1-2 weeks
Appropriate short-term storage conditions	+4°C
Appropriate long-term storage conditions	-20°C
Aliquoting information	Upon delivery aliquot
Storage information	Avoid freeze / thaw cycle

Notes

What is this antibody validated in?
Anti-Tissue Factor antibody [EPR22548-232] (ab228968) is a rabbit recombinant monoclonal antibody and is validated for use in Western Blot (WB), Flow Cytometry (Flow Cyt), Immunoprecipitation (IP), Immunohistochemistry (IHC-P), Immunocytochemistry/immunofluorescence (ICC/IF) in Human samples.

What is the molecular weight of Tissue Factor?
Anti-Tissue Factor [EPR22548-232] (ab228968) specifically detects a band for Tissue Factor (UniProt: P13726) at a molecular weight of 33kDa.

Trusted by the scientific community
Anti-Tissue Factor [EPR22548-232] (ab228968) was first used in a scientific publication in 2019 and has been cited over 10 times in peer-reviewed journals.

Specificity confirmed
The specificity of Anti-Tissue Factor antibody [EPR22548-232] (ab228968) has been confirmed by Western blot testing in F3 Knockout HAP1 cells.

Other related products
We have a range of other formats of antibody clone [EPR22548-232] also available for your convenience: ab228968, Carrier free - ab254010, Alexa Fluor® 488 - ab318166, Alexa Fluor® 647 - ab318167

Patented technology
Our RabMAb® technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb® patents.

What are the advantages of a recombinant monoclonal antibody?
This product is a recombinant monoclonal antibody, which offers several advantages including:

- High batch-to-batch consistency and reproducibility
- Improved sensitivity and specificity
- Long-term security of supply
- Animal-free batch production

For more information, read more on recombinant antibodies.

Trial sizes available!
Test your antibody or perform pre-screening before committing to a larger quantity. Sold in 20µl. Discover our selection of trial-size antibodies.

Supplementary info

This supplementary information is collated from multiple sources and compiled automatically.

Activity summary	Tissue Factor also known as coagulation factor III or CD142 is an important player in the blood coagulation process. This protein with a molecular mass of approximately 47 kDa is a transmembrane glycoprotein. It is expressed widely in various tissues including the lungs heart and brain and plays an important role in initiating the coagulation cascade when exposed to blood. In endothelial cells tissue factor is generally not present unless these cells are in a state of disturbance supporting its role as a primary defense mechanism against vascular injury.
Biological function summary	Tissue factor acts as a cofactor for factor VIIa forming a complex that rapidly catalyzes the activation of factor X to factor Xa. This catalytic action ultimately leads to fibrin formation which is essential for clotting. Tissue Factor (TF) is part of the extrinsic pathway of the coagulation cascade and is fundamental in the generation of a hemostatic response to tissue injury. By regulating thrombin generation through its interaction with other coagulation factors tissue factor plays an important role in maintaining hemostatic balance.
Pathways	Tissue factor is integral in the extrinsic pathway of coagulation which works closely with the intrinsic pathway to ensure effective hemostasis. It complexes with factor VIIa and triggers downstream effects involving proteins like factor X and thrombin. Tissue factor forms a bridge between cellular injury responses and the blood coagulation system linking these two significant physiological processes. The interaction with these proteins highlights its central role in hemostatic pathways and highlights its significance in the coagulation network.
Associated diseases and disorders	Tissue factor is associated with conditions like thrombosis and cardiovascular diseases where its expression can become dysregulated. Abnormal activation of tissue factor contributes directly to the pathological clot formation seen in thrombosis. It is also implicated in cancer-related coagulopathy where it can facilitate tumor-associated thrombosis by interacting with cancer cell surfaces. Additionally in such diseases the interplay between tissue factor and thrombin

becomes important as it affects disease progression and the severity of clot-related complications.

Product promise

Tested

We have tested this species and application combination and it works. It is covered by our product promise.

Expected

We have not tested this specific species and application combination in-house, but expect it will work. It is covered by our product promise.

Predicted

This species and application combination has not been tested, but we predict it will work based on strong homology. However, this combination is not covered by our product promise.

Not recommended

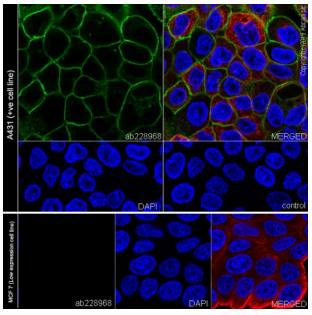
We do not recommend this combination. It is not covered by our product promise.

We are dedicated to supporting your work with high quality reagents and we are here for you every step of the way should you need us.

In the unlikely event of one of our products not working as expected, you are covered by our product promise.

Full details and terms and conditions can be found here:
Terms & Conditions.

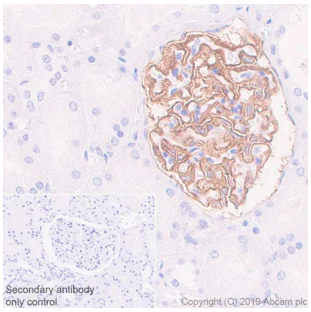
6 product images



Immunocytochemistry/ Immunofluorescence - Anti-Tissue Factor antibody [EPR22548-232] (ab228968)

Tissue Factor Immunocytochemistry/ Immunofluorescence staining using rabbit Anti-Tissue Factor antibody

Immunofluorescent analysis of 4% paraformaldehyde-fixed, 0.1% Triton X-100 permeabilizedA431 (human epidermoid carcinoma epithelial cell) and MCF7 () cells labeling Tissue Factor with ab228968 at 1/100 dilution, followed by Goat Anti-Rabbit IgG H&L (Alexa Fluor® 488) (ab150077) secondary antibody at 1/1000 dilution (green). Confocal image showing membranous staining in A431 cell line. **Low expression**: MCF7 (PMID: 24137414, 28938620. The nuclear stain is DAPI (blue). Counterstained with ab195889 Anti-alpha Tubulin antibody [DM1A] - Microtubule Marker (Alexa Fluor® 594) at a 1/200 dilution (red).
The negative control is the secondary antibody only.

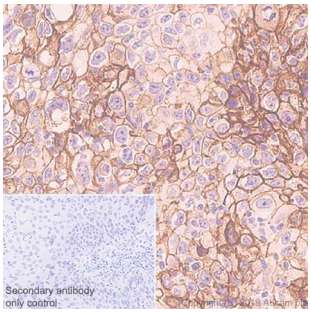


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tissue Factor antibody [EPR22548-232] (ab228968)

Tissue Factor Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Tissue Factor antibody

Immunohistochemical analysis of paraffin-embedded human kidney tissue labeling Tissue Factor with ab228968 at 1/500 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Positive staining in human renal glomerulus (PMID: 7684196). The section was incubated with ab228968 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Perform heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins.

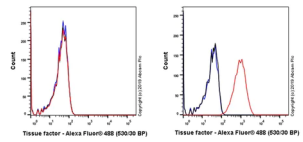


Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-Tissue Factor antibody [EPR22548-232] (ab228968)

Tissue Factor Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) staining using rabbit Anti-Tissue Factor antibody

Immunohistochemical analysis of paraffin-embedded human cervix carcinoma tissue labeling Tissue Factor with ab228968 at 1/500 dilution, followed by ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101). Membranous and weak cytoplasmic staining on tumor cells of human cervix carcinoma (PMID: 26383146). The section was incubated with ab228968 for 30 mins at RT. The immunostaining was performed on a Leica Biosystems BOND® RX instrument. Counterstained with hematoxylin.
Secondary antibody only control: Used PBS instead of primary antibody, secondary antibody is ready to use Rabbit specific IHC polymer detection kit HRP/DAB (ab209101).

Perform heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0, epitope retrieval solution 2) for 20mins.

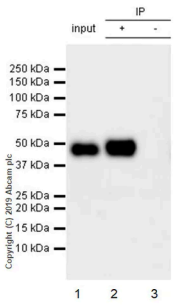


Flow Cytometry - Anti-Tissue Factor antibody [EPR22548-232] (ab228968)

Tissue Factor Flow Cytometry staining using rabbit Anti-Tissue Factor antibody

Flow cytometric analysis of MCF7 (human breast adenocarcinoma epithelial cell, Left) / A431 (human epidermoid carcinoma epithelial cell, Right) labeling Tissue Factor with ab228968 at 1/500 (red) compared with a Rabbit monoclonal IgG (ab172730) (black) and an unlabeled control (cells without incubation with primary antibody and secondary antibody) (blue). Goat anti rabbit IgG (Alexa Fluor® 488, ab150077), at 1/2000 dilution was used as the secondary antibody.
Low expression: MCF7 (PMID: 24137414, PMID: 28938620).

Gated on viable cells.



Immunoprecipitation - Anti-Tissue Factor antibody [EPR22548-232] (ab228968)

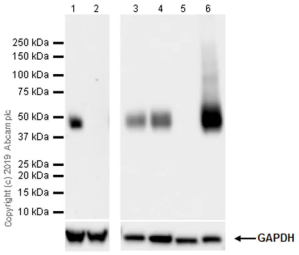
Tissue Factor was immunoprecipitated from 0.35 mg A431 (human epidermoid carcinoma epithelial cell) whole cell lysate with ab228968 at 1/30 dilution. Western blot was performed from the immunoprecipitate using ab228968 at 1/1000 dilution. VeriBlot for IP for detection (HRP) (ab131366), was used Detection Reagent at 1/5000 dilution.
Lane 1: A431 whole cell lysate 10 µg (Input).
Lane 2: ab228968 IP in A431 whole cell lysate.
Lane 3: Rabbit monoclonal IgG (ab172730) instead of ab228968 in A431 whole cell lysate.

Blocking/Dilution buffer: 5% NFDM/TBST.
Exposure time: 30 seconds.

All lanes:
Immunoprecipitation - Anti-Tissue Factor antibody [EPR22548-232] (ab228968)

Predicted band size: 33 kDa

Observed band size: 47 kDa



Western blot - Anti-Tissue Factor antibody [EPR22548-232] (ab228968)

ab228968 was shown to specifically react with Tissue Factor in wild-type HAP1 cells as signal was lost in Tissue Factor knockout cells. Wild-type and Tissue Factor knockout samples were subjected to SDS-PAGE. ab228968 and ab181602 (Rabbit anti-GAPDH loading control) were incubated 1 hour at room temperature at 1/1000 dilution and 1/200,000 dilution respectively. Blots were developed with Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated (ab97051) secondary antibody at 1/100,000 dilution for 1 hour at room temperature before imaging. The blot was developed on a BIO-RAD® ChemiDoc™ MP instrument using the ECL technique.
The molecular weight observed is consistent with what has been described in the literature (PMID: 28938620).

Low expression: MCF-7 (PMID: 24137414, 28938620).

Exposure times: Lanes 1-2: 70 secs; Lanes 3-6: 3.25 secs.

Blocking/Dilution buffer: 5% NFDM/TBST.

All lanes:
Western blot - Anti-Tissue Factor antibody [EPR22548-232] (ab228968) at 1/1000 dilution

Lane 1:
Wild-type HAP1 whole cell lysate at 60 µg

Lane 2:
Tissue Factor knockout HAP1 whole cell lysate at 60 µg

Lane 3:
A431 (human epidermoid carcinoma epithelial cell), whole cell lysate at 20 µg

Lane 4:
MDA-MB-231 (human breast adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 5:
MCF7 (human breast adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Lane 6:

BxPC-3 (human pancreas adenocarcinoma epithelial cell), whole cell lysate at 20 µg

Secondary

All lanes:
Western blot - Goat Anti-Rabbit IgG H&L (HRP) (ab97051) at 1/100000 dilution

Predicted band size: 33 kDa

Observed band size: 47 kDa

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.