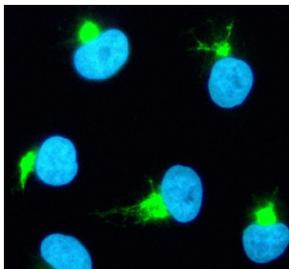


## TBXAS1 Antibody / Thromboxane-A synthase 1 (FY12152)

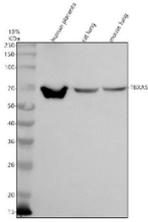
Catalog No.	Formulation	Size
FY12152	Adding 0.2 ml of distilled water will yield a concentration of 500 ug/ml	100 ug

[Bulk quote request](#)

<b>Availability</b>	1-2 days
<b>Species Reactivity</b>	Human, Mouse, Rat
<b>Format</b>	Lyophilized
<b>Host</b>	Rabbit
<b>Clonality</b>	Polyclonal (rabbit origin)
<b>Isotype</b>	Rabbit IgG
<b>Purity</b>	Immunogen affinity purified
<b>Buffer</b>	Each vial contains 4 mg Trehalose, 0.9 mg NaCl, 0.2 mg Na <sub>2</sub> HPO <sub>4</sub> .
<b>UniProt</b>	P24557
<b>Applications</b>	Western Blot : 0.25-0.5ug/ml Immunocytochemistry/Immunofluorescence : 5ug/ml ELISA : 0.1-0.5ug/ml
<b>Limitations</b>	This TBXAS1 antibody is available for research use only.



Immunofluorescent staining of TBXAS1 using anti-TBXAS1 antibody (green). TBXAS1 was detected in an immunocytochemical section of cells. Enzyme antigen retrieval was performed using IHC enzyme antigen retrieval reagent for 15 mins. The cells were blocked with 10% goat serum. And then incubated with 5 ug/ml rabbit anti-TBXAS1 antibody overnight at 4oC. DyLight 488 Conjugated Goat Anti-Rabbit IgG was used as secondary antibody at 1:500 dilution and incubated for 30 minutes at 37oC. The section was counterstained with DAPI nuclear stain (blue). Visualize using a fluorescence microscope and filter sets appropriate for the label used.



Western blot analysis of TBXAS1 using anti-TBXAS1 antibody. Electrophoresis was performed on a 10% SDS-PAGE gel at 80V (Stacking gel) / 120V (Resolving gel) for 2 hours. Lane 1: human placenta tissue lysates, Lane 2: rat lung tissue lysates, Lane 3: mouse lung tissue lysates. After electrophoresis, proteins were transferred to a nitrocellulose membrane at 150 mA for 50-90 minutes. Blocked the membrane with 5% non-fat milk/TBS for 1.5 hour at RT. The membrane was incubated with rabbit anti-TBXAS1 antibody at 0.5 ug/ml overnight at 4oC, then washed with TBS-0.1%Tween 3 times with 5 minutes each and probed with a goat anti-rabbit IgG-HRP secondary antibody at a dilution of 1:5000 for 1.5 hour at RT. The signal was developed using an ECL Plus Western Blotting Substrate. A specific band was detected for TBXAS1 at approximately 61 kDa. The expected band size for TBXAS1 is at 61 kDa.

## Description

TBXAS1 antibody detects Thromboxane-A synthase 1, encoded by the TBXAS1 gene on chromosome 7q34. TBXAS1 antibody is used to study this cytochrome P450 enzyme responsible for producing thromboxane A2 from prostaglandin H2. Thromboxane A2 is a potent lipid mediator with strong effects on platelet aggregation, vasoconstriction, and hemostasis. TBXAS1 is predominantly expressed in platelets, vascular endothelium, and kidney, but is also found in other tissues where prostaglandin metabolism occurs. Its enzymatic activity places it at the intersection of cardiovascular physiology and inflammatory signaling.

Structurally, TBXAS1 is a membrane-associated cytochrome P450 protein anchored in the endoplasmic reticulum. It possesses a heme prosthetic group essential for catalysis and shares homology with other P450 enzymes. TBXAS1 specifically rearranges prostaglandin H2 to form thromboxane A2, which is chemically unstable and rapidly hydrolyzes to thromboxane B2. This catalytic specificity is crucial for controlling thromboxane-dependent pathways in platelets and vascular smooth muscle cells.

Functionally, TBXAS1 plays essential roles in hemostasis and cardiovascular regulation. By generating thromboxane A2, it drives platelet aggregation and vasoconstriction, contributing to clot formation and vascular tone. Dysregulation of TBXAS1 activity leads to pathological thrombus formation, hypertension, and atherosclerosis. TBXAS1 also influences inflammatory signaling by modulating prostanoid balance. Researchers use TBXAS1 antibody to measure its expression in studies of platelet biology, vascular disease, and inflammatory processes.

Clinically, mutations in TBXAS1 cause Ghosal hematodiaphyseal dysplasia, a rare bone marrow failure syndrome with skeletal abnormalities and anemia. Overexpression or increased activity of TBXAS1 contributes to cardiovascular disease risk by promoting platelet hyperactivity and vasoconstriction. Pharmacological inhibition of TBXAS1 reduces thromboxane A2 production and is clinically exploited by aspirin and related drugs that block upstream cyclooxygenase activity. Elevated TBXAS1 expression has also been observed in certain cancers, where it may support tumor growth by influencing angiogenesis and platelet-tumor interactions.

Experimentally, TBXAS1 antibody is used in western blotting to detect the ~60 kDa protein, in immunohistochemistry to assess vascular and platelet expression, and in ELISA to quantify protein levels. Immunoprecipitation with TBXAS1 antibody helps analyze enzyme complexes in prostaglandin metabolism. NSJ Bioreagents supplies TBXAS1 antibody for research into platelet function, vascular biology, and inflammatory signaling.

## Application Notes

Optimal dilution of the TBXAS1 antibody should be determined by the researcher.

## Immunogen

E.coli-derived human TBXAS1 recombinant protein (Position: Q157-R533) was used as the immunogen for the TBXAS1 antibody.

## Storage

After reconstitution, the TBXAS1 antibody can be stored for up to one month at 4°C. For long-term, aliquot and store at -20°C. Avoid repeated freezing and thawing.