

# Thrombin R (ATAP2): sc-13503

## BACKGROUND

Thrombin is a serine protease that is involved in platelet aggregation and blood coagulation. It is cleaved from its precursor, prothrombin, and converts fibrinogen to fibrin in the final step of the clotting cascade. Thrombin mediates its regulatory effects by activating cell surface receptors. These receptors, including Thrombin receptor (also designated PAR-1, for protease-activated receptor-1), PAR-2 and PAR-3 are members of the G protein-coupled receptor family, and share a similar gene structure. Thrombin cleaves its receptor, releasing a 41 amino acid peptide which acts as a platelet agonist. Upon this activation by thrombin, the thrombin receptors trigger an increase in cytosolic Ca<sup>2+</sup> concentration. Unactivated Thrombin receptor cycles between the cell surface and an intracellular pool, while activated receptor internalizes rapidly and is degraded in the lysosomes. The human Thrombin R is also known to be regulated by Sp1 and Sp3 transcription factors.

## REFERENCES

1. Goldsack, N.R., et al. 1998. Thrombin. *Int. J. Biochem. Cell Biol.* 30: 641-646.
2. Kahn, M.L., et al. 1998. Gene and locus structure and chromosomal localization of the protease-activated receptor gene family. *J. Biol. Chem.* 273: 23290-23296.
3. Furman, M.I., et al. 1998. The cleaved peptide of the Thrombin receptor is a strong platelet agonist. *Proc. Natl. Acad. Sci. USA* 95: 3082-3087.

## CHROMOSOMAL LOCATION

Genetic locus: F2R (human) mapping to 5q13.3; F2r (mouse) mapping to 13 D1.

## SOURCE

Thrombin R (ATAP2) is a mouse monoclonal antibody raised against amino acids 42-55 of thrombin receptor of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Thrombin R (ATAP2) is available conjugated to agarose (sc-13503 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-13503 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-13503 PE), fluorescein (sc-13503 FITC), Alexa Fluor® 488 (sc-13503 AF488), Alexa Fluor® 546 (sc-13503 AF546), Alexa Fluor® 594 (sc-13503 AF594) or Alexa Fluor® 647 (sc-13503 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-13503 AF680) or Alexa Fluor® 790 (sc-13503 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, Thrombin R (ATAP2) is available conjugated to Alexa Fluor® 405 (sc-13503 AF405, 200 µg/ml), for IF, IHC(P) and FCM.

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

## STORAGE

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

## APPLICATIONS

Thrombin R (ATAP2) is recommended for detection of Thrombin R of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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 flow cytometry (1 µg per 1 x 10<sup>6</sup> cells).

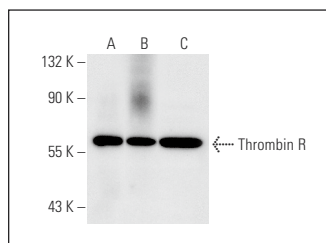
Suitable for use as control antibody for Thrombin R siRNA (h): sc-36663, Thrombin R siRNA (m): sc-36664, Thrombin R siRNA (r): sc-270004, Thrombin R shRNA Plasmid (h): sc-36663-SH, Thrombin R shRNA Plasmid (m): sc-36664-SH, Thrombin R shRNA Plasmid (r): sc-270004-SH, Thrombin R shRNA (h) Lentiviral Particles: sc-36663-V, Thrombin R shRNA (m) Lentiviral Particles: sc-36664-V and Thrombin R shRNA (r) Lentiviral Particles: sc-270004-V.

Molecular Weight of Thrombin R: 47 kDa.

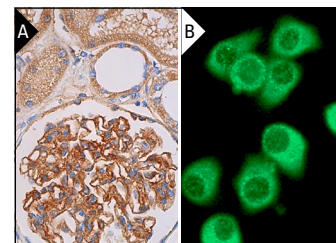
Molecular Weight of glycosylated Thrombin R: 66 kDa.

Positive Controls: Thrombin R (h4): 293T Lysate: sc-159022, HeLa whole cell lysate: sc-2200 or KNRK whole cell lysate: sc-2214.

## DATA



Thrombin R (ATAP2): sc-13503. Western blot analysis of Thrombin R expression in non-transfected 293T: sc-117752 (A), human Thrombin R transfected 293T: sc-159022 (B) and HeLa (C) whole cell lysates.



Thrombin R (ATAP2): sc-13503. Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing membrane and cytoplasmic staining of cells in glomeruli and cytoplasmic staining of cells in tubules (A). Immunofluorescence staining of methanol-fixed KNRK cells showing cytoplasmic staining (B).

## SELECT PRODUCT CITATIONS

1. Uehara, A., et al. 2002. Activation of human oral epithelial cells by neutrophil proteinase 3 through protease-activated receptor-2. *J. Immunol.* 169: 4594-4603.
2. Iwata, Y., et al. 2023. A serine protease inhibitor, camostat mesilate, suppresses urinary plasmin activity and alleviates hypertension and podocyte injury in dahl salt-sensitive rats. *Int. J. Mol. Sci.* 24: 15743.
3. Zhao, C., et al. 2024. Argatroban promotes recovery of spinal cord injury by inhibiting the PAR1/JAK2/STAT3 signaling pathway. *Neural Regen. Res.* 19: 434-439.

## RESEARCH USE

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