

Thrombin R (C-11): sc-271100

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 R (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 that acts as a platelet agonist. Upon this activation by thrombin, the Thrombin Rs trigger an increase in cytosolic Ca²⁺ concentration. Unactivated Thrombin R cycles between the cell surface and an intracellular pool, while activated Thrombin R 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.
4. Sullivan, R., et al. 1998. Analysis of a Ca²⁺-activated K⁺ channel that mediates hyperpolarization via the Thrombin receptor pathway. *Am. J. Physiol.* 275: C1342-C1348.
5. Shapiro, M.J., et al. 1998. Separate signals for agonist-independent and agonist-triggered trafficking of protease-activated receptor 1. *J. Biol. Chem.* 273: 29009-29014.

CHROMOSOMAL LOCATION

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

SOURCE

Thrombin R (C-11) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 37-63 near the N-terminus of Thrombin R of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-271100 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

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 (C-11) is recommended for detection of Thrombin R of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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.

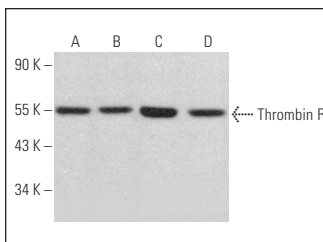
Molecular Weight of glycosylated Thrombin R: 66 kDa.

Positive Controls: ECV304 cell lysate: sc-2269, HEL 92.1.7 cell lysate: sc-2270 or Jurkat whole cell lysate: sc-2204.

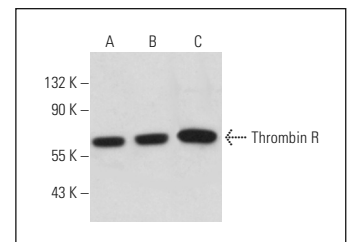
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA




Thrombin R (C-11): sc-271100. Western blot analysis of Thrombin R expression in HEL 92.1.7 (A), ECV304 (B), Jurkat (C) and HL-60 (D) whole cell lysates.



Thrombin R (C-11): sc-271100. Western blot analysis of Thrombin R expression in HeLa (A), BYDP (B) and PC-12 (C) whole cell lysates.

RESEARCH USE

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



See **Thrombin R (ATAP2): sc-13503** for Thrombin R antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.