SANTA CRUZ BIOTECHNOLOGY, INC.

Thrombin R (h): 293T Lysate: sc-116387

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 Ca^{2+} concentration. Unactivated Thrombin R cycles between the cell surface and an intra-cellular 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

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3. Furman, M.I., Liu, L., Benoit, S.E., Becker, R.C., Barnard, M.R. and Michelson, A.D. 1998. The cleaved peptide of the thrombin receptor is a strong platelet agonist. Proc. Natl. Acad. Sci. USA 95: 3082-3087.
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5. Shapiro, M.J. and Coughlin, S.R. 1998. Separate signals for agonist-independent and agonist-triggered trafficking of protease-activated receptor 1. J. Biol. Chem. 273: 29009-29014.
6. Wu, Y., Ruef, J., Rao, G.N, Patterson, C. and Runge, M.S. 1998. Differential transcriptional regulation of the human thrombin receptor gene by the Sp family of transcription factors in human endothelial cells. Biochem. J. 330: 1469-1474.

CHROMOSOMAL LOCATION

Genetic locus: F2R (human) mapping to 5q13.3.

PRODUCT

Thrombin R (h): 293T Lysate represents a lysate of human Thrombin R transfected 293T cells and is provided as 100 µg protein in 200 µl SDS-PAGE buffer.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.

APPLICATIONS

Thrombin R (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive Thrombin R antibodies. Recommended use: 10-20 µl per lane.

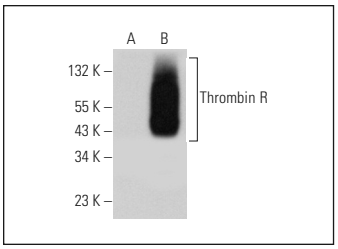
Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

Thrombin R (G-7): sc-133128 is recommended as a positive control antibody for Western Blot analysis of enhanced human Thrombin R expression in Thrombin R transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

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.

DATA



Thrombin R (G-7): sc-133128. Western blot analysis of Thrombin R expression in non-transfected: sc-117752 (**A**) and human Thrombin R transfected: sc-116387 (**B**) 293T whole cell lysates.

RESEARCH USE

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