

Thrombin R (S-19): sc-8204

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 Ca²⁺ concentration. Unactivated thrombin receptors cycle between the cell surface and an intracellular pool, while activated receptors internalize rapidly and are degraded in the lysosomes. The human thrombin receptor is also known to be regulated by Sp1 and Sp3 transcription factors.

REFERENCES

1. Goldsack, N.R., et al. 1998. Thrombin. *Int. J. 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 (mouse) mapping to 13 D1.

SOURCE

Thrombin R (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of Thrombin R of mouse origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8204 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

Thrombin R (S-19) is recommended for detection of Thrombin receptor of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 (m): sc-36664, Thrombin R shRNA Plasmid (m): sc-36664-SH and Thrombin R shRNA (m) Lentiviral Particles: sc-36664-V.

Molecular Weight of Thrombin R: 47 kDa.

Molecular Weight of glycosylated Thrombin R: 66 kDa.

Positive Controls: KNRK whole cell lysate: sc-2214.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Yun, L.W., et al. 2007. Blockade of protease-activated receptors on T cells correlates with altered proteolysis of CD27 by gingipains of *Porphyromonas gingivalis*. *Clin. Exp. Immunol.* 150: 217-229.
2. Kirkland, J.G., et al. 2007. Agonists of protease-activated receptors 1 and 2 stimulate electrolyte secretion from mouse gallbladder. *Am. J. Physiol. Gastrointest. Liver Physiol.* 293: G335-G346.
3. Matej, R., et al. 2007. Radiation-induced production of PAR-1 and TGF-β 1 mRNA in lung of C57Bl6 and C3H murine strains and influence of pharmacoprophylaxis by ACE inhibitors. *Pathol. Res. Pract.* 203: 107-114.
4. Vellani, V., et al. 2010. Protease activated receptors 1 and 4 sensitize TRPV1 in nociceptive neurones. *Mol. Pain* 6: 61.

STORAGE

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

RESEARCH USE

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

PROTOCOLS

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



Try **Thrombin R (ATAP2): sc-13503**, our highly recommended monoclonal alternative to Thrombin R (S-19). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **Thrombin R (ATAP2): sc-13503**.