

PAR-2 (S-19): sc-8207

BACKGROUND

Thrombin receptor (also designated protease-activated receptor-1 or PAR-1), PAR-2 and PAR-3 compose a distinct class of G protein-coupled receptors activated by proteolysis. Cleavage of these receptors by proteases occurs within the amino-terminal extracellular domain. Thrombin, a serine protease involved in platelet aggregation and blood coagulation, activates the thrombin receptor, resulting in elevated intracellular calcium levels in platelets. Thrombin also cleaves PAR-3 *in vitro*, suggesting that PAR-3 may be involved in thrombosis or mitogenesis. Thrombin receptor and PAR-4 appear to account for most thrombin signaling in platelets. Activation of PAR-2 *in vitro* is induced by trypsin, suggesting that PAR-2 is not an alternative thrombin receptor. Cytokines including TNF- α and IL-1 β increase PAR-2 expression, indicating PAR-2 involvement in the acute inflammatory response.

REFERENCES

1. Santulli, R.J., et al. 1995. Evidence for the presence of a protease-activated receptor distinct from the thrombin receptor in human keratinocytes. Proc. Natl. Acad. Sci. USA 92: 9151-9155.
2. Lerner, D.J., et al. 1996. Agonist recognition by proteinase-activated receptor 2 and thrombin receptor. Importance of extracellular loop interactions for receptor function. J. Biol. Chem. 271: 13943-13947.
3. Nystedt, S., et al. 1996. The proteinase-activated receptor 2 is induced by inflammatory mediators in human endothelial cells. Comparison with the thrombin receptor. J. Biol. Chem. 271: 14910-14915.
4. Xu, W.F., et al. 1998. Cloning and characterization of human protease-activated receptor 4. Proc. Natl. Acad. Sci. USA 95: 6642-6646.
5. Goldsack, N.R., et al. 1998. Thrombin. Int. J. Biochem. Cell Biol. 30: 641-646.
6. 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.

CHROMOSOMAL LOCATION

Genetic locus: F2RL1 (human) mapping to 5q13.3; F2r1 (mouse) mapping to 13 D1.

SOURCE

PAR-2 (S-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PAR-2 of mouse origin.

STORAGE

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

PRODUCT

Each vial contains 100 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-8207 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PAR-2 (S-19) is recommended for detection of PAR-2 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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).

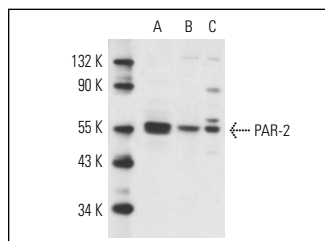
Suitable for use as control antibody for PAR-2 siRNA (h): sc-36188, PAR-2 siRNA (m): sc-36187, PAR-2 shRNA Plasmid (h): sc-36188-SH, PAR-2 shRNA Plasmid (m): sc-36187-SH, PAR-2 shRNA (h) Lentiviral Particles: sc-36188-V and PAR-2 shRNA (m) Lentiviral Particles: sc-36187-V

Molecular Weight (predicted) of PAR-2: 44 kDa.

Molecular Weight (observed) of PAR-2: 50-100 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, c4 whole cell lysate: sc-364186 or KNRK whole cell lysate: sc-2214.

DATA



PAR-2 (S-19): sc-8207. Western blot analysis of PAR-2 expression in COLO 320DM (A), c4 (B) and NIH/3T3 (C) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Olejár, T., et al. 2001. Expression of proteinase-activated receptor 2 during taurocholate-induced acute pancreatic lesion development in Wistar rats. Int. J. Gastrointest. Cancer 30: 113-121.
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. Amiable, N., et al. 2011. Proteinase-activated receptor-2 gene disruption limits the effect of osteoarthritis on cartilage in mice: a novel target in joint degradation. J. Rheumatol. 38: 911-920.

RESEARCH USE

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



Try **PAR-2 (SAM11): sc-13504** or **PAR-2 (3G233): sc-71842**, our highly recommended monoclonal alternatives to PAR-2 (S-19). Also, for AC, HRP, FITC, PE, Alexa Fluor[®] 488 and Alexa Fluor[®] 647 conjugates, see **PAR-2 (SAM11): sc-13504**.