

## PAR-2 (H-99): sc-5597

### 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- $\alpha$  and IL-1 $\beta$  increase PAR-2 expression, indicating PAR-2 involvement in the acute inflammatory response.

### CHROMOSOMAL LOCATION

Genetic locus: F2RL1 (human) mapping to 5q13.3/F2rl1 (mouse) mapping to 13 D1.

### SOURCE

PAR-2 (H-99) is a rabbit polyclonal antibody raised against amino acids 230-328 of PAR-2 of human origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

### APPLICATIONS

PAR-2 (H-99) is recommended for detection of PAR-2 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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).

PAR-2 (H-99) is also recommended for detection of PAR-2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PAR-2 siRNA (h): sc-36188, PAR-2 siRNA (m): sc-36187, PAR-2 siRNA (r): sc-156080, PAR-2 shRNA Plasmid (h): sc-36188-SH, PAR-2 shRNA Plasmid (m): sc-36187-SH, PAR-2 shRNA Plasmid (r): sc-156080-SH, PAR-2 shRNA (h) Lentiviral Particles: sc-36188-V, PAR-2 shRNA (m) Lentiviral Particles: sc-36187-V and PAR-2 shRNA (r) Lentiviral Particles: sc-156080-V.

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

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

Positive Controls: PAR-2 (m): 293T Lysate: sc-122374, Hep G2 cell lysate: sc-2227 or NIH/3T3 whole cell lysate: sc-2210.

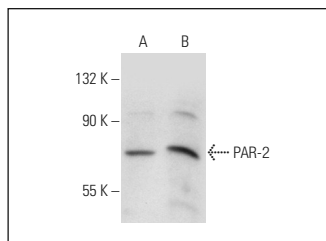
### STORAGE

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.

### DATA



PAR-2 (H-99): sc-5597. Western blot analysis of PAR-2 expression in non-transfected: sc-117752 (A) and mouse PAR-2 transfected: sc-122374 (B) 293T whole cell lysates.

### SELECT PRODUCT CITATIONS

1. Fukunaga, R., et al. 2006. Upregulation of proteinase-activated receptors and hypercontractile responses precede development of arterial lesions after balloon injury. *Am. J. Physiol. Heart Circ. Physiol.* 291: H2388-2395.
2. St-Onge, M., et al. 2010. Proteinase-activated receptor-2 up-regulation by Fc $\gamma$ -receptor activation in human neutrophils. *FASEB J.* 24: 2116-2125.
3. Aman, M., et al. 2010. Upregulation of proteinase-activated receptor-2 and increased response to trypsin in endothelial cells after exposure to oxidative stress in rat aortas. *J. Vasc. Res.* 47: 494-506.
4. Lam, D.K. and Schmidt, B.L. 2010. Serine proteases and protease-activated receptor 2-dependent allodynia: a novel cancer pain pathway. *Pain* 149: 263-272.
5. Lam, D.K., et al. 2012. Novel animal models of acute and chronic cancer pain: a pivotal role for PAR2. *J. Neurosci.* 32: 14178-14183.
6. Denadai-Souza, A., et al. 2012. Role of transient receptor potential vanilloid 4 in rat joint inflammation. *Arthritis Rheum.* 64: 1848-1858.
7. Kalayarasan, S., et al. 2013. Diallylsulfide attenuates excessive collagen production and apoptosis in a rat model of bleomycin induced pulmonary fibrosis through the involvement of protease activated receptor-2. *Toxicol. Appl. Pharmacol.* 271: 184-195.
8. Duchesne, E., et al. 2013. Mast cells can regulate skeletal muscle cell proliferation by multiple mechanisms. *Muscle Nerve* 48: 403-414.
9. Zannoni, A., et al. 2014. Proteinase-activated receptor 2 expression in the intestinal tract of the horse. *Res. Vet. Sci.* 96: 464-471.



Try **PAR-2 (SAM11): sc-13504** or **PAR-2 (3G233): sc-71842**, our highly recommended monoclonal alternatives to PAR-2 (H-99). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **PAR-2 (SAM11): sc-13504**.