SANTA CRUZ BIOTECHNOLOGY, INC.

PAR-4 (M-20): sc-8462

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Thrombin receptor (also designated protease-activated receptor-1 or PAR-1), PAR-2, PAR-3 and PAR-4 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-1β increase PAR-2 expression, indicating PAR-2 involvement in the acute inflammatory response.

CHROMOSOMAL LOCATION

Genetic locus: F2rl3 (mouse) mapping to 8 B3.3.

SOURCE

PAR-4 (M-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of PAR-4 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-8462 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

PROTOCOLS

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

APPLICATIONS

PAR-4 (M-20) is recommended for detection of PAR-4 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), immunohistochemistry (including paraffin-embedded sections) (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-4 siRNA (m): sc-72069, PAR-4 shRNA Plasmid (m): sc-72069-SH and PAR-4 shRNA (m) Lentiviral Particles: sc-72069-V.

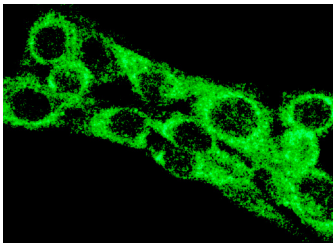
Molecular Weight of PAR-4: 38 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

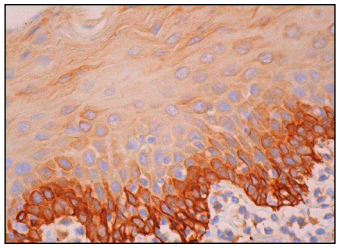
RECOMMENDED SECONDARY REAGENTS

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. 3) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



PAR-4 (M-20): sc-8462. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing membrane localization.



PAR-4 (M-20): sc-8462. Immunoperoxidase staining of formalin fixed, paraffin-embedded human esophagus tissue showing membrane and cytoplasmic staining of squamous epithelial cells.

SELECT PRODUCT CITATIONS

1. Lan, R.S., et al. 2004. Altered expression and *in vivo* lung function of protease-activated receptors during influenza A virus infection in mice. Am. J. Physiol. Lung Cell. Mol. Physiol. 286: L388-L398.
2. Guo, H., et al. 2004. Activated protein C prevents neuronal apoptosis via protease activated receptors 1 and 3. Neuron 41: 563-572.
3. Naini, S., et al. 2008. Defining the cooperative genetic changes that temporally drive alveolar rhabdomyosarcoma. Cancer Res. 68: 9583-9588.
4. Niers, T.M., et al. 2009. Differential effects of anticoagulants on tumor development of mouse cancer cell lines B16, K1735 and CT26 in lung. Clin. Exp. Metastasis 26: 171-178.
5. Vellani, V., et al. 2010. Protease activated receptors 1 and 4 sensitize TRPV1 in nociceptive neurones. Mol. Pain 6: 61.
6. Shavit, E., et al. 2011. Anatomical localization of protease-activated receptor-1 and protease-mediated neuroglial crosstalk on peri-synaptic astrocytic endfeet. J. Neurochem. 119: 460-473.
7. Ito, M., et al. 2013. Measles virus non-structural C protein modulates viral RNA polymerase activity by interacting with a host protein SHCBP1. J. Virol. 87: 9633-9642.

RESEARCH USE

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