

# PAR4 (4H12E9): sc-130079

## BACKGROUND

Normal tissues are characterized by a balance between cellular stasis, cell proliferation, cell differentiation and cell death. Aberrant regulation of any of these cell processes can result in cancer. Cell death during embryogenesis, tissue atrophy and normal tissue turnover is called apoptosis and is characterized by cytoplasmic and nuclear condensation, nuclear disorganization and fragmentation of genomic DNA into 180-200 base pair oligomers. Five ionomycin-inducible complementary cDNAs, designated PAR1, 2, 3, 4 and 5, have been isolated from the prostate cancer cell line AT-3. Nucleotide sequencing identified PAR1 as the rat homolog of MKP-1, PAR2 as the injury-inducible gene HBEGF and PAR3 as the serum-induced gene CYR61. PAR4 and PAR5 sequences were not found to correspond to any previously described proteins. PAR4 (prostate apoptosis response-4) is specifically expressed by cells entering apoptosis and is not inducible by growth factor stimulation, oxidative stress and necrosis, or growth arrest. The PAR4 gene encodes a protein with a putative nuclear localization signal and carboxy-terminal leucine zipper.

## REFERENCES

- Herrmann, J L., et al. 1998. Prostate carcinoma cell death resulting from inhibition of proteasome activity is independent of functional Bcl-2 and p53. *Oncogene* 17: 2889-2899.
- Fioretti, B., et al. 2004. Histamine activates a background, arachidonic acid-sensitive K channel in embryonic chick dorsal root ganglion neurons. *Neuroscience* 125: 119-127.
- Wang, G., et al. 2005. Direct binding to ceramide activates protein kinase C $\zeta$  before the formation of a pro-apoptotic complex with PAR4 in differentiating stem cells. *J Biol. Chem.* 280: 26415-26424.
- Park, S.K., et al. 2005. Par-4 links dopamine signaling and depression. *Cell* 122: 275-287.
- Affar, el B., et al. 2006. Targeted ablation of Par-4 reveals a cell type-specific susceptibility to apoptosis-inducing agents. *Cancer Res.* 66: 3456-3462.
- Welters, H., et al. 2006. Conditional expression of hepatocyte nuclear factor-1 $\beta$ , the maturity-onset diabetes of the young-5 gene product, influences the viability and functional competence of pancreatic  $\beta$ -cells. *J. Endocrinol.* 190: 171-181.
- Zapata-Benavides, P., et al. 2009. Expression of prostate apoptosis response (Par-4) is associated with progesterone receptor in breast cancer. *Arch. Med. Res.* 40: 595-599.

## CHROMOSOMAL LOCATION

Genetic locus: PAWR (human) mapping to 12q21.2; Pawr (mouse) mapping to 10 D1.

## SOURCE

PAR4 (4H12E9) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 1-330 of PAR4 of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>1</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

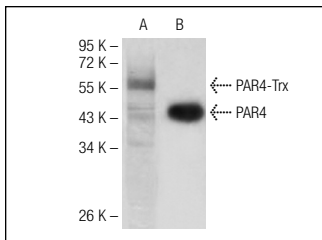
PAR4 (4H12E9) is recommended for detection of PAR4 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), 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 PAR4 siRNA (h): sc-36190, PAR4 siRNA (m): sc-36189, PAR4 shRNA Plasmid (h): sc-36190-SH, PAR4 shRNA Plasmid (m): sc-36189-SH, PAR4 shRNA (h) Lentiviral Particles: sc-36190-V and PAR4 shRNA (m) Lentiviral Particles: sc-36189-V.

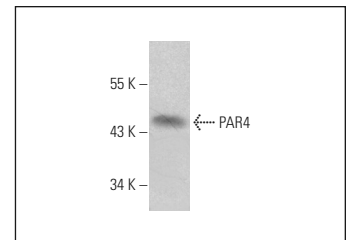
Molecular Weight of PAR4: 47 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200 or NBT-II whole cell lysate: sc-395046.

## DATA



PAR4 (4H12E9): sc-130079. Western blot analysis of full-length human recombinant PAR4-Trx protein (A) and PAR4 expression in HeLa whole cell lysate (B).



PAR4 (4H12E9): sc-130079. Western blot analysis of PAR4 expression in NBT-II whole cell lysate.

## 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](http://www.scbt.com) for detailed protocols and support products.



See **PAR4 (A-10): sc-1666** for PAR4 antibody conjugates, including AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647.