SANTA CRUZ BIOTECHNOLOGY, INC.

PAR4 (R-334): sc-1807

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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.

CHROMOSOMAL LOCATION

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

SOURCE

PAR4 (R-334) is a rabbit polyclonal antibody raised against amino acids 1-334 representing full length PAR4 of rat origin.

PRODUCT

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

APPLICATIONS

PAR4 (R-334) 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 µg per 100-500 µg 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 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: PAR4 (m): 293 Lysate: sc-179292, HeLa whole cell lysate: sc-2200 or NIH/3T3 whole cell lysate: sc-2210.

RESEARCH USE

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

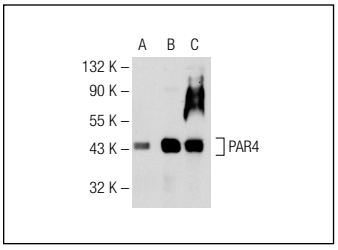
PROTOCOLS

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

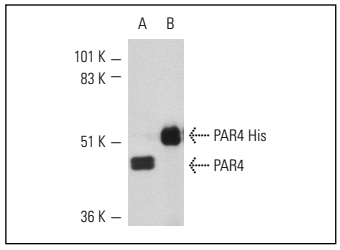
STORAGE

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

DATA



PAR4 (R-334): sc-1807. Western blot analysis of PAR4 expression in non-transfected 293: sc-110760 (**A**), mouse PAR4 transfected 293: sc-179292 (**B**) and NIH/3T3 (**C**) whole cell lysates.



PAR4 (R-334): sc-1807. Western blot analysis of PAR4 expression in AT-3 whole cell lysate (**A**) and 20 ng PAR4 polyhistidine fusion protein (**B**).

SELECT PRODUCT CITATIONS

1. 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.
2. 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.
3. Kline, C.L., et al. 2009. Src activity alters α3 integrin expression in colon tumor cells. Clin. Exp. Metastasis 26: 77-87.
4. Wang, B.D., et al. 2010. Prostate apoptosis response protein 4 sensitizes human colon cancer cells to chemotherapeutic 5-FU through mediation of an NFκB and microRNA network. Mol. Cancer 9: 98.
5. Felten, A., et al. 2012. Zipper-interacting protein kinase is involved in regulation of ubiquitination of the androgen receptor, thereby contributing to dynamic transcription complex assembly. Oncogene 32: 4981-4988.
6. Thayyullathil, F., et al. 2013. Caspase-3 mediated release of SAC domain containing fragment from Par-4 is necessary for the sphingosine-induced apoptosis in Jurkat cells. J. Mol. Signal. 8: 2.
7. Burikhanov, R., et al. 2014. Arylquins target vimentin to trigger Par-4 secretion for tumor cell apoptosis. Nat. Chem. Biol. 10: 924-926.
8. Treude, F., et al. 2014. Caspase-8-mediated PAR-4 cleavage is required for TNFα-induced apoptosis. Oncotarget 5: 2988-2998.