SANTA CRUZ BIOTECHNOLOGY, INC.

PAR4 (C-19): sc-1249

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 HB-EGF, 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 induced during growth factor stimulation, oxidative stress, 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 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of 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.

Blocking peptide available for competition studies, sc-1249 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PAR4 (C-19) 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), 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).

PAR4 (C-19) is also recommended for detection of PAR4 in additional species, including canine, bovine and avian.

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.

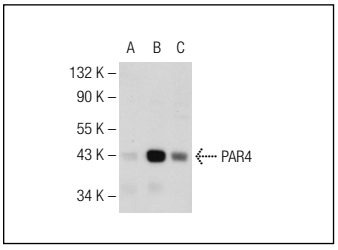
Molecular Weight of PAR4: 47 kDa.

Positive Controls: PAR4 (m): 293 Lysate: sc-179292, AT-3 whole cell lysate or NIH/3T3 whole cell lysate: sc-2210.

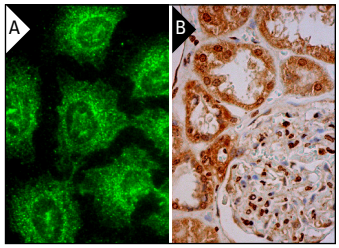
STORAGE

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

DATA



PAR4 (C-19): sc-1249. 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 (C-19): sc-1249. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic and nuclear localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human kidney tissue showing nuclear staining of cells in glomeruli and nuclear and cytoplasmic staining of cells in tubules (**B**).

SELECT PRODUCT CITATIONS

1. Konishi, H., et al. 1996. HST-1/FGF-4 stimulates proliferation of megakaryocyte progenitors synergistically and promotes megakaryocyte maturation. Oncogene 13: 9-19.
2. Sánchez, A.M., et al. 2007. Apoptosis induced by capsaicin in prostate PC-3 cells involves ceramide accumulation, neutral sphingomyelinase, and JNK activation. Apoptosis 12: 2013-2024.
3. Kukar, T.L., et al. 2008. Substrate-targeting γ-secretase modulators. Nature 453: 925-929.
4. Wong, N.K., et al. 2008. CD45 down-regulates Lck-mediated CD44 signaling and modulates actin rearrangement in T cells. J. Immunol. 181: 7033-7043.
5. Visigalli, I., et al. 2010. The galactocerebrosidase enzyme contributes to the maintenance of a functional hematopoietic stem cell niche. Blood 116: 1857-1866.
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.

RESEARCH USE

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