SANTA CRUZ BIOTECHNOLOGY, INC.

PAR4 (A-10): sc-1666

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 (A-10) is a mouse monoclonal antibody raised against amino acids 1-334 representing full length PAR4 of rat origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PAR4 (A-10) is available conjugated to agarose (sc-1666 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-1666 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-1666 PE), fluorescein (sc-1666 FITC), Alexa Fluor® 488 (sc-1666 AF488), Alexa Fluor® 546 (sc-1666 AF546), Alexa Fluor® 594 (sc-1666 AF594) or Alexa Fluor® 647 (sc-1666 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-1666 AF680) or Alexa Fluor® 790 (sc-1666 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

PAR4 (A-10) 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).

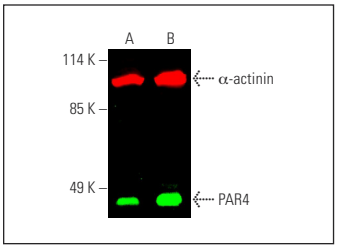
Suitable for use as control antibody for PAR4 siRNA (h): sc-36190, PAR4 siRNA (m): sc-36189, PAR4 shRNA Plasmid (h): sc-36190-SH, PAR4 shRNA Plasmid (m): sc-36189-SH, PAR4 shRNA (h) Lentiviral Particles: sc-36190-V and PAR4 shRNA (m) Lentiviral Particles: sc-36189-V.

Molecular Weight of PAR4: 47 kDa.

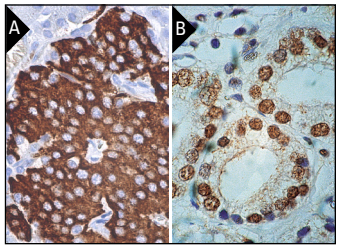
STORAGE

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

DATA



Simultaneous direct near-infrared western blot analysis of PAR4 expression, detected with PAR4 (A-10) Alexa Fluor® 680: sc-1666 AF680 and α-actinin expression, detected with α-actinin (H-2) Alexa Fluor® 790: sc-17829 AF790 in AT3B-1 (**A**) and NBT-II (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214.



PAR4 (A-10): sc-1666. Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of Islets of Langerhans (**A**). Immunoperoxidase staining of formalin-fixed, paraffin-embedded human prostate carcinoma tissue. Note nuclear staining of glandular epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Johnstone, R., et al. 1996. A novel repressor, PAR4, modulates transcription and growth suppression functions of the Wilms' tumor suppressor WT1. Mol. Cell. Biol. 16: 6945-6956.
2. Casolari, D.A., et al. 2011. Insulin-like growth factor-1 and 17β-estradiol down-regulate prostate apoptosis response-4 expression in MCF-7 breast cancer cells. Int. J. Mol. Med. 28: 337-342.
3. Pereira, M.C., et al. 2013. Prostate apoptosis response-4 is involved in the apoptosis response to docetaxel in MCF-7 breast cancer cells. Int. J. Oncol. 43: 531-538.
4. Brandt, J.Z., et al. 2014. Indole-3-carbinol attenuates the deleterious gestational effects of bisphenol A exposure on the prostate gland of male F1 rats. Reprod. Toxicol. 43: 56-66.
5. Mendes, L.O., et al. 2015. Androgen therapy reverses injuries caused by ethanol consumption in the prostate: testosterone as a possible target to ethanol-related disorders. Life Sci. 120: 22-30.
6. Camora, L.F., et al. 2017. Impact of maternal and postnatal zinc dietary status on the prostate of pubescent and adult rats. Cell Biol. Int. 41: 1203-1213.
7. Mendes, L.O., et al. 2018. Modulation of inflammatory and hormonal parameters in response to testosterone therapy: effects on the ventral prostate of adult rats. Cell Biol. Int. 42: 1200-1211.
8. Gomes, Á.N.M., et al. 2019. Apoptosis and proliferation during human salivary gland development. J. Anat. 234: 830-838.

RESEARCH USE

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