

PAR6A (G-9): sc-74479

BACKGROUND

Cellular asymmetry is critical for the development of multicellular organisms. PAR (partitioning-defective) proteins play important roles in asymmetric cell division and polarized growth, whereas Cdc42 and Rac mediate establishment of cell growth and polarity and contribute to oncogenic transformation by Ras. The human PAR6, a 345 amino acid polypeptide, has a PDZ domain and a CRIB-like (Cdc42/Rac interactive binding) motif. PAR6 interacts with GTP-bound Rac and Cdc42 via this motif and with the atypical PKC isoforms PKC ι/λ and PKC ζ via N-terminal head to head association. These interactions allow formation of a ternary complex *in vitro* and *in vivo*, which is implicated in the formation of normal tight junctions at epithelial cell-cell contacts and is also involved in the polarization of mother cells before asymmetric cell division in *C. elegans*. PAR6 acts through PAR3 by localizing or maintaining the PAR3 protein at the cell periphery. PAR6A, also designated PAR-6 α , PAR6C, TAX40 and TIP-40, is expressed in pancreas, skeletal muscle, brain and heart, and is weakly expressed in kidney and placenta. PAR6B is expressed in pancreas and in both adult and fetal kidney, and is weakly expressed in placenta and lung.

REFERENCES

1. Watts, J.L., et al. 1996. PAR-6, a gene involved in the establishment of asymmetry in early *C. elegans* embryos, mediates the asymmetric localization of PAR-3. *Development* 122: 3133-3140.
2. Kim, S.K. 2000. Cell polarity: new PARTners for Cdc42 and Rac. *Nat. Cell Biol.* 2: E143-E145.
3. Brazil, D.P., et al. 2000. Cell polarity: scaffold proteins par excellence. *Curr. Biol.* 10: R592-R594.
4. Qiu, R.G., et al. 2000. A human homolog of the *C. elegans* polarity determinant PAR-6 links Rac and Cdc42 to PKC ζ signaling and cell transformation. *Curr. Biol.* 10: 697-707.

CHROMOSOMAL LOCATION

Genetic locus: PAR6A (human) mapping to 16q22.1; Par6a (mouse) mapping to 8 D3.

SOURCE

PAR6A (G-9) is a mouse monoclonal antibody raised against amino acids 257-346 of PAR6A of human origin.

PRODUCT

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

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 for detailed protocols and support products.

APPLICATIONS

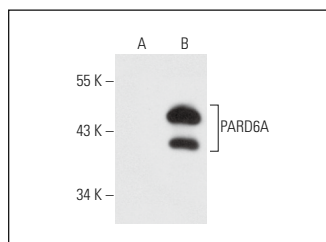
PAR6A (G-9) is recommended for detection of PAR6A of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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 PAR6A siRNA (h): sc-40809, PAR6A siRNA (m): sc-40810, PAR6A shRNA Plasmid (h): sc-40809-SH, PAR6A shRNA Plasmid (m): sc-40810-SH, PAR6A shRNA (h) Lentiviral Particles: sc-40809-V and PAR6A shRNA (m) Lentiviral Particles: sc-40810-V.

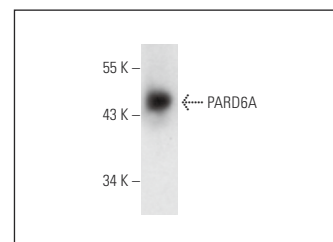
Molecular Weight of PAR6A: 43 kDa.

Positive Controls: PAR6A (h): 293T Lysate: sc-173794, MIA PaCa-2 cell lysate: sc-2285 or mouse brain extract: sc-2253.

DATA



PAR6A (G-9): sc-74479. Western blot analysis of PAR6A expression in non-transfected: sc-117752 (A) and human PAR6A transfected: sc-173794 (B) 293T whole cell lysates.



PAR6A (G-9): sc-74479. Western blot analysis of PAR6A expression in MIA PaCa-2 whole cell lysate.

SELECT PRODUCT CITATIONS

1. Gao, N. and Kaestner, K.H. 2010. Cdx2 regulates endo-lysosomal function and epithelial cell polarity. *Genes Dev.* 24: 1295-1305.
2. Carvalho, G., et al. 2011. Participation of the cell polarity protein PALS1 to T-cell receptor-mediated NF κ B activation. *PLoS ONE* 6: e18159.
3. Di Emidio, G., et al. 2022. Protective effects of a SIRT1 inhibitor on primordial follicle activation and growth induced by cyclophosphamide: insights from a bovine in vitro folliculogenesis system. *J. Assist. Reprod. Genet.* 39: 933-943.

RESEARCH USE

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