

PAR6A (h): 293T Lysate: sc-173794

BACKGROUND

Cellular asymmetry is critical for the development of multicellular organisms. PARD (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 PARD6, a 345 amino acid polypeptide, has a PDZ domain and a CRIB-like (Cdc42/Rac interactive binding) motif. PARD6 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*. PARD6 acts through PARD3 by localizing or maintaining the PARD3 protein at the cell periphery. PARD6A, 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

- 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.
- Kim, S.K. 2000. Cell polarity: new PARTners for Cdc42 and Rac. *Nat. Cell Biol.* 2: E143-E145.
- Joberty, G., et al. 2000. The cell-polarity protein PAR-6 links PAR-3 and atypical protein kinase C to Cdc42. *Nat. Cell Biol.* 2: 531-539.
- Lin, D., et al. 2000. A mammalian PAR-3-PAR-6 complex implicated in Cdc42/Rac 1 and aPKC signalling and cell polarity. *Nat. Cell Biol.* 2: 540-547.
- 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.
- Brazil, D.P., et al. 2000. Cell polarity: scaffold proteins PAR excellence. *Curr. Biol.* 10: R592-R594.
- Johansson, A., et al. 2000. The mammalian homologue of the *Caenorhabditis elegans* polarity protein PAR-6 is a binding partner for the Rho GTPases Cdc42 and Rac 1. *J. Cell Sci.* 13: 3267-3275.
- Noda, Y., et al. 2001. Human homologues of the *Caenorhabditis elegans* cell polarity protein PAR-6 as an adaptor that links the small GTPases Rac and Cdc42 to atypical protein kinase C. *Genes Cells* 6: 107-119.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

PROTOCOLS

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

CHROMOSOMAL LOCATION

Genetic locus: PARD6A (human) mapping to 16q22.1.

PRODUCT

PAR6A (h): 293T Lysate represents a lysate of human PARD6A transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

PAR6A (h): 293T Lysate is suitable as a Western Blotting positive control for human reactive PARD6A antibodies.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

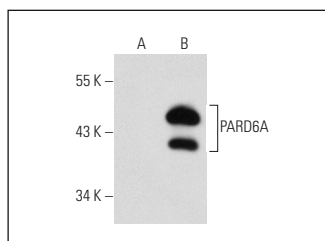
PAR6A (G-9): sc-74479 is recommended as a positive control antibody for Western Blot analysis of enhanced human PARD6A expression in PARD6A transfected 293T cells (starting dilution 1:100, dilution range 1:100-1:1,000).

RECOMMENDED SUPPORT REAGENTS

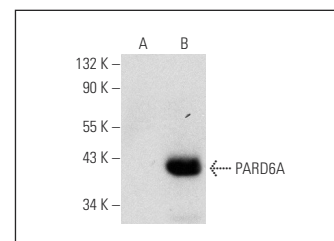
To ensure optimal results, the following support reagents are recommended:

1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048.

DATA



PAR6A (G-9): sc-74479. Western blot analysis of PARD6A expression in non-transfected: sc-117752 (A) and human PARD6A transfected: sc-173794 (B) 293T whole cell lysates.



PAR6A (C-3): sc-365323. Western blot analysis of PARD6A expression in non-transfected: sc-117752 (A) and human PARD6A transfected: sc-173794 (B) 293T whole cell lysates.

RESEARCH USE

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