SANTA CRUZ BIOTECHNOLOGY, INC.

PARD6A (H-18): sc-14403

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 PKCι/λ and PKCω 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-6α, 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: 143-145.
3. 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.
4. Lin, D., et al. 2000. A mammalian PAR-3-PAR-6 complex implicated in Cdc42/Rac1 and αPKC signaling and cell polarity. Nat. Cell Biol. 2: 540-547.
5. Qiu, R.G., et al. 2000. A human homolog of the *C. elegans* polarity determinant PAR-6 links Rac and Cdc42 to PKCζ signaling and cell transformation. Curr. Biol. 10: 697-707.
6. Brazil, D.P., et al. 2000 Cell polarity: scaffold proteins PAR excellence. Curr. Biol. 10: R592-R594.
7. 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 Rac1. J. Cell Sci. 13: 3267-3275.

CHROMOSOMAL LOCATION

Genetic locus: PARD6A (human) mapping to 16q22.1; Pard6a (mouse) mapping to 8 D3.

SOURCE

PARD6A (H-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PARD6A of human origin.

RESEARCH USE

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

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-14403 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

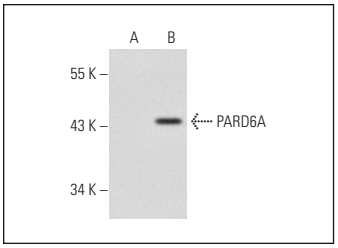
PARD6A (H-18) is recommended for detection of PARD6A of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded 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 PARD6A siRNA (h): sc-40809, PARD6A siRNA (m): sc-40810, PARD6A shRNA Plasmid (h): sc-40809-SH, PARD6A shRNA Plasmid (m): sc-40810-SH, PARD6A shRNA (h) Lentiviral Particles: sc-40809-V and PARD6A shRNA (m) Lentiviral Particles: sc-40810-V.

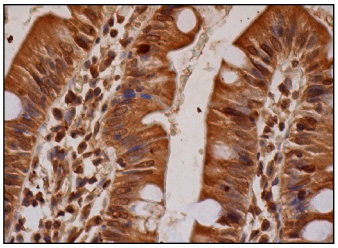
Molecular Weight of PARD6A: 43 kDa.

Positive Controls: MIA PaCa-2 cell lysate: sc-2285 or PARD6A (h): 293T Lysate: sc-173794.

DATA



PARD6A (H-18): sc-14403. Western blot analysis of PARD6A expression in non-transfected: sc-117752 (**A**) and human PARD6A transfected: sc-173794 (**B**) 293T whole cell lysates.



PARD6A (H-18): sc-14403. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing nuclear and cytoplasmic staining of glandular cells.

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 or our catalog for detailed protocols and support products.