

# PAR6A (N-18): sc-14401

## 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 $\iota$ / $\lambda$  and PKC $\omega$  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 $\alpha$ , 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. 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.
3. Lin, D., et al. 2000. A mammalian PAR-3-PAR-6 complex implicated in Cdc42/Rac1 and  $\alpha$ PKC signaling and cell polarity. *Nat. Cell Biol.* 2: 540-547.
4. Qiu, R.G., et al. 2000. A human homolog of the *C. elegans* polarity determinant PAR-6 links Rac and Cdc42 to PKC $\zeta$  signaling and cell transformation. *Curr. Biol.* 10: 697-707.

## CHROMOSOMAL LOCATION

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

## SOURCE

PAR6A (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of PARD6A of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-14401 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

PAR6A (N-18) is recommended for detection of PARD6A of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g 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).

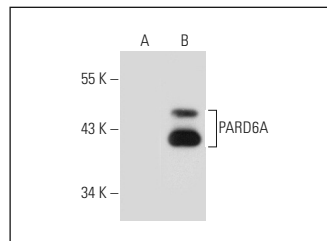
PAR6A (N-18) is also recommended for detection of PARD6A in additional species, including equine, canine, bovine and porcine.

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.

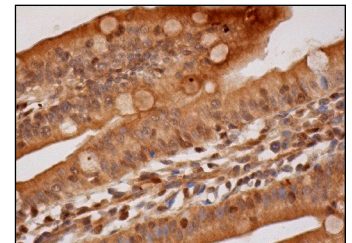
Molecular Weight of PARD6A: 43 kDa.

Positive Controls: L8 cell lysate: sc-3807, mouse brain extract: sc-2253 or PARD6A (h): 293T Lysate: sc-173794.

## DATA



PAR6A (N-18): sc-14401. Western blot analysis of PARD6A expression in non-transfected: sc-117752 (A) and human PARD6A transfected: sc-173794 (B) 293T whole cell lysates.



PAR6A (N-18): sc-14401. Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic and nuclear staining of glandular cells.

## SELECT PRODUCT CITATIONS

1. Kodani, A., et al. 2010. Par6  $\alpha$  interacts with the dynactin subunit p150 Glued and is a critical regulator of centrosomal protein recruitment. *Mol. Biol. Cell* 21: 3376-3385.

## RESEARCH USE

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


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Try **PAR6A (C-3): sc-365323** or **PAR6A (G-9): sc-74479**, our highly recommended monoclonal alternatives to PARD6A (N-18).