

# PARD6B (M-64): sc-67393

## 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 $\zeta$  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. Brazil, D.P., et al. 2000. Cell polarity: scaffold proteins PAR excellence. *Curr. Biol.* 10: 592-594.
3. Kim, S.K. 2000. Cell polarity: new PARTners for Cdc42 and Rac. *Nat. Cell Biol.* 2: 143-145.
4. 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.

## CHROMOSOMAL LOCATION

Genetic locus: PARD6B (human) mapping to 20q13.13; Pard6b (mouse) mapping to 2 H3.

## SOURCE

PARD6B (M-64) is a rabbit polyclonal antibody raised against amino acids 308-371 mapping at the C-terminus of PARD6B of mouse origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG 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](http://www.scbt.com) or our catalog for detailed protocols and support products.

## APPLICATIONS

PARD6B (M-64) is recommended for detection of PARD6B of mouse, rat and, to a lesser extent, 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).

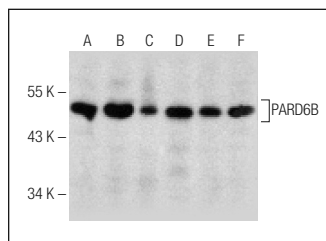
Suitable for use as control antibody for PARD6B siRNA (h): sc-62751, PARD6B siRNA (m): sc-62752, PARD6B shRNA Plasmid (h): sc-62751-SH, PARD6B shRNA Plasmid (m): sc-62752-SH, PARD6B shRNA (h) Lentiviral Particles: sc-62751-V and PARD6B shRNA (m) Lentiviral Particles: sc-62752-V.

Molecular Weight (predicted) of PARD6B: 41 kDa.

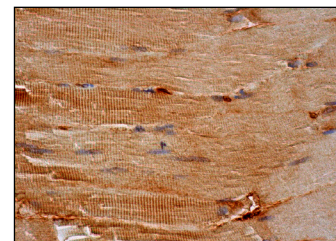
Molecular Weight (observed) of PARD6B: 51-57 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

## DATA



PARD6B (M-64): sc-67393. Western blot analysis of PARD6B expression in HeLa (A), Caki-1 (B), MIA PaCa-2 (C), JAR (D), PC-3 (E) and Jurkat (F) whole cell lysates.



PARD6B (M-64): sc-67393. Immunoperoxidase staining of formalin fixed, paraffin-embedded human skeletal muscle tissue showing cytoplasmic staining of myocytes.

## 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. Alarcon, V.B. 2010. Cell polarity regulator PARD6B is essential for trophectoderm formation in the preimplantation mouse embryo. *Biol. Reprod.* 83: 347-358.
3. Bedzhov, I. and Zernicka-Goetz, M. 2014. Self-organizing properties of mouse pluripotent cells initiate morphogenesis upon implantation. *Cell* 156: 1032-1044.

## RESEARCH USE

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



Try **PARD6B (B-10): sc-166405** or **PARD6B (E-6): sc-390452**, our highly recommended monoclonal alternatives to PARD6B (M-64).