

# PARD6B (D-12): sc-133205

## 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  $\nu/\lambda$  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

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- 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/Rac1 and  $\alpha$ PKC signaling and cell polarity. *Nat. Cell Biol.* 2: 540-547.
- Kim, S.K. 2000. Cell polarity: new PARTners for Cdc42 and Rac. *Nat. Cell Biol.* 2: E143-E145.
- 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.
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- 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: PARD6B (human) mapping to 20q13.13; Pard6b (mouse) mapping to 2 H3.

## SOURCE

PARD6B (D-12) is a mouse monoclonal antibody raised against amino acids 309-372 mapping at the C-terminus of PARD6B of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG<sub>2a</sub> in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

PARD6B (D-12) is recommended for detection of PARD6B of mouse and human origin by Western Blotting (starting dilution 1:100, 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.

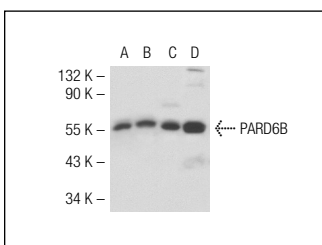
Molecular Weight (observed) of PARD6B: 51-57 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Caki-1 cell lysate: sc-2224 or NIH/3T3 whole cell lysate: sc-2210.

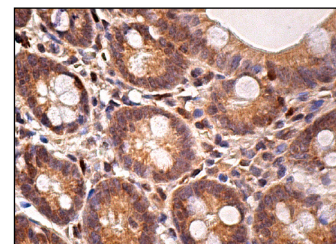
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-mouse IgG-HRP: sc-2005 (dilution range: 1:2000-1:32,000) or Cruz Marker™ compatible goat anti-mouse IgG-HRP: sc-2031 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-mouse IgG-FITC: sc-2010 (dilution range: 1:100-1:400) or goat anti-mouse IgG-TR: sc-2781 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2050 or ABC: sc-2017 mouse IgG Staining Systems.

## DATA



PARD6B (D-12): sc-133205. Western blot analysis of PARD6B expression in MIA PaCa-2 (A), Caki-1 (B), HeLa (C) and NIH/3T3 (D) whole cell lysates.



PARD6B (D-12): sc-133205. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing 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.

## RESEARCH USE

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