SANTA CRUZ BIOTECHNOLOGY, INC.

PARD6B (B-10): sc-166405

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 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-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. 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.

CHROMOSOMAL LOCATION

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

SOURCE

PARD6B (B-10) is a mouse monoclonal antibody raised against amino acids 308-371 mapping at the C-terminus of PARD6B of mouse origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PARD6B (B-10) is available conjugated to agarose (sc-166405 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-166405 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-166405 PE), fluorescein (sc-166405 FITC), Alexa Fluor® 488 (sc-166405 AF488), Alexa Fluor® 546 (sc-166405 AF546), Alexa Fluor® 594 (sc-166405 AF594) or Alexa Fluor® 647 (sc-166405 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-166405 AF680) or Alexa Fluor® 790 (sc-166405 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

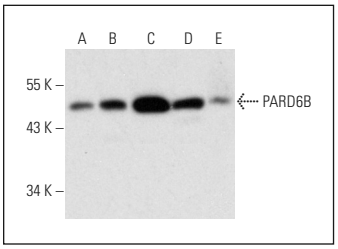
PARD6B (B-10) is recommended for detection of PARD6B of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 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.

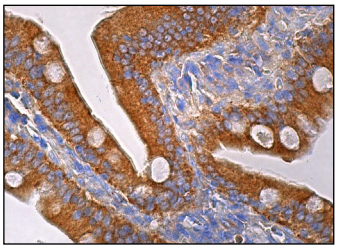
Molecular Weight (predicted) of PARD6B: 41 kDa.

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

DATA



PARD6B (B-10): sc-166405. Western blot analysis of PARD6B expression in HeLa (**A**), PC-3 (**B**), Caki-1 (**C**), Jurkat (**D**) and RAW 264.7 (**E**) whole cell lysates.



PARD6B (B-10): sc-166405. Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

1. Campos, Y., et al. 2016. Alix-mediated assembly of the actomyosin-tight junction polarity complex preserves epithelial polarity and epithelial barrier. Nat. Commun. 7: 11876.
2. Bershteyn, M., et al. 2017. Human iPSC-derived cerebral organoids model cellular features of lissencephaly and reveal prolonged mitosis of outer radial glia. Cell Stem Cell 20: 435-449.e4.
3. Christensen, I.B., et al. 2018. Choroid plexus epithelial cells express the adhesion protein P-cadherin at cell-cell contacts and syntaxin-4 in the luminal membrane domain. Am. J. Physiol. Cell Physiol. 314: C519-C533.
4. Landin Malt, A., et al. 2019. Par3 is essential for the establishment of planar cell polarity of inner ear hair cells. Proc. Natl. Acad. Sci. USA 116: 4999-5008.
5. Lim, H.Y.G., et al. 2020. Keratins are asymmetrically inherited fate determinants in the mammalian embryo. Nature 585: 404-409.
6. Indana, D., et al. 2021. Viscoelasticity and adhesion signaling in biomaterials control human pluripotent stem cell morphogenesis in 3D culture. Adv. Mater. E-published.

RESEARCH USE

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