SANTA CRUZ BIOTECHNOLOGY, INC.

PARD6A (T-20): sc-14405

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 PKCζ 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.

CHROMOSOMAL LOCATION

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

SOURCE

PARD6A (T-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of PARD6A of mouse origin.

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-14405 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PARD6A (T-20) 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 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (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: L8 cell lysate: sc-3807, mouse brain extract: sc-2253 or PARD6A (h): 293T Lysate: sc-173794.

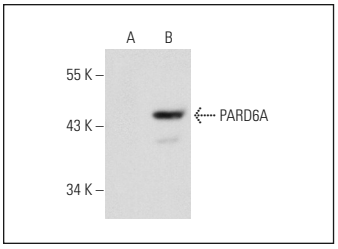
STORAGE

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

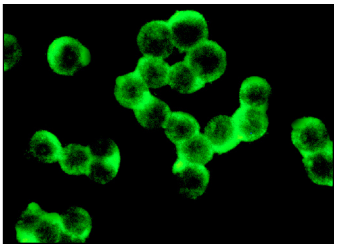
RESEARCH USE

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

DATA



PARD6A (T-20): sc-14405. Western blot analysis of PARD6A expression in non-transfected: sc-117752 (**A**) and human PARD6A transfected: sc-173794 (**B**) 293T whole cell lysates.



PARD6A (T-20): sc-14405. Immunofluorescence staining of methanol-fixed Y79 cells showing membrane localization.

SELECT PRODUCT CITATIONS

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2. Yasumi, M., et al. 2005. Direct binding of Lgl2 to LGN during mitosis and its requirement for normal cell division. J. Biol. Chem. 280: 6761-6765.
3. Iden, S., et al. 2006. A distinct PAR complex associates physically with VE-cadherin in vertebrate endothelial cells. EMBO Rep. 7: 1239-1246.
4. Kameoka, M., et al. 2007. Identification of the suppressive factors for human immunodeficiency virus type-1 replication using the siRNA mini-library directed against host cellular genes. Biochem. Biophys. Res. Commun. 359: 729-734.
5. Wolf, A.M., et al. 2008. Phosphatidylinositol-3-kinase-atypical protein kinase C signaling is required for Wnt attraction and anterior-posterior axon guidance. J. Neurosci. 28: 3456-3467.
6. Chauhan, B.K., et al. 2009. Cdc42- and IRSp53-dependent contractile filopodia tether presumptive lens and retina to coordinate epithelial invagination. Development 136: 3657-3667.
7. Alford, L.M., et al. 2009. Cell polarity emerges at first cleavage in sea urchin embryos. Dev. Biol. 330: 12-20.
8. Kodani, A., et al. 2010. Par6 α interacts with the dynactin subunit p150 Glued and is a critical regulator of centrosomal protein recruitment. Mol. Biol. Cell 21: 3376-3385.