SANTA CRUZ BIOTECHNOLOGY, INC.

PARD3B (F-12): sc-398887

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. PARD3B (par-3 partitioning defective 3 homolog B), also known as PAR3B, PAR3β, PAR3L, PAR3LC or Par3Lb, is a 1,205 amino acid putative adapter protein of the endomembrane system that participates in cell polarization and asymmetrical cell division. Likely involved in epithelial tight junction formation, PARD3B localizes to the cell junction where it colocalizes with ZO-1 (zona occludens protein 1). PARD3B is expressed in a variety of tissues with highest expression found in skeletal muscle, lung and kidney, and moderate levels found in pancreas, brain, heart, liver, placenta. Existing as five alternatively spliced isoforms, PARD3B contains three PDZ (DHR) domains and is encoded by a gene located on human chromosome 2q33.3.

REFERENCES

1. Hadano, S., et al. 2001. A gene encoding a putative GTPase regulator is mutated in familial amyotrophic lateral sclerosis 2. Nat. Genet. 29: 166-173.
2. Kohjima, M., et al. 2002. PAR3β, a novel homologue of the cell polarity protein PAR3, localizes to tight junctions. Biochem. Biophys. Res. Commun. 299: 641-646.
3. Gao, L., et al. 2002. Multiple splice variants of Par3 and of a novel related gene, Par3L, produce proteins with different binding properties. Gene 294: 99-107.
4. Warner, D.R., et al. 2003. Identification of three novel Smad binding proteins involved in cell polarity. FEBS Lett. 539: 167-173.
5. Jin, J., et al. 2004. Proteomic, functional, and domain-based analysis of *in vivo* 14-3-3 binding proteins involved in cytoskeletal regulation and cellular organization. Curr. Biol. 14: 1436-1450.
6. Izaki, T., et al. 2006. Two forms of human Inscuteable-related protein that links PAR3 to the Pins homologues LGN and AGS3. Biochem. Biophys. Res. Commun. 341: 1001-1006.

CHROMOSOMAL LOCATION

Genetic locus: PARD3B (human) mapping to 2q33.3; Pard3b (mouse) mapping to 1 C2.

SOURCE

PARD3B (F-12) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 89-111 near the N-terminus of PARD3B of human 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.

Blocking peptide available for competition studies, sc-398887 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

APPLICATIONS

PARD3B (F-12) is recommended for detection of PARD3B 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for PARD3B siRNA (h): sc-94928, PARD3B siRNA (m): sc-152024, PARD3B shRNA Plasmid (h): sc-94928-SH, PARD3B shRNA Plasmid (m): sc-152024-SH, PARD3B shRNA (h) Lentiviral Particles: sc-94928-V and PARD3B shRNA (m) Lentiviral Particles: sc-152024-V.

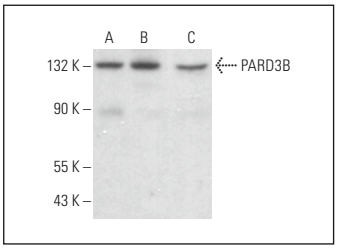
Molecular Weight of PARD3B: 133 kDa.

Positive Controls: RAW 264.7 whole cell lysate: sc-2211, ARPE-19 whole cell lysate: sc-364357 or KNRK whole cell lysate: sc-2214.

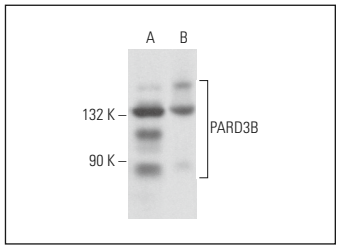
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



PARD3B (F-12): sc-398887. Western blot analysis of PARD3B expression in RAW 264.7 (**A**), NIH/3T3 (**B**) and PC-12 (**C**) whole cell lysates.



PARD3B (F-12): sc-398887. Western blot analysis of PARD3B expression in ARPE-19 (**A**) and KNRK (**B**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Loeffler, D., et al. 2019. Asymmetric lysosome inheritance predicts activation of haematopoietic stem cells. Nature 573: 426-429.

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.