SANTA CRUZ BIOTECHNOLOGY, INC.

PALB2 (G-13): sc-160647

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Fanconi anemia (FA) is an autosomal recessive disorder characterized by bone marrow failure, birth defects and chromosomal instability. At the cellular level, FA is characterized by spontaneous chromosomal breakage and a unique hypersensitivity to DNA cross-linking agents. PALB2 (partner and localizer of BRCA2), also designated as FANCN (Fanconi anemia, complementation group N) or FLJ21816, is a 1,186 amino acid nuclear protein that co-localizes with BRCA2 (breast cancer 2) to the nuclear foci. As the name implies, PALB2 is an essential partner of BRCA2 and promotes stable intranuclear localization and accumulation of BRCA2. Considered a potential tumor surppressor, PALB2 contains four WD repeats, which are involved in protein-protein interactions. Genetic variations in PALB2 may be associated with breast cancer susceptibility and the cause of genetic disorder FANCN. PALB2 is phosphorylated upon DNA damage by ATM or ATR.

REFERENCES

1. Pakkanen, S., et al. 2009. PALB2 variants in hereditary and unselected Finnish prostate cancer cases. J. Negat. Results Biomed. 8: 12.
2. Sy, S.M., et al. 2009. PALB2 regulates recombinational repair through chromatin association and oligomerization. J. Biol. Chem. 284: 18302-18310.
3. Zhang, F., et al. 2009. PALB2 functionally connects the breast cancer susceptibility proteins BRCA1 and BRCA2. Mol. Cancer Res. 7: 1110-1118.
4. Shen, X., et al. 2009. Recruitment of fanconi anemia and breast cancer proteins to DNA damage sites is differentially governed by replication. Mol. Cell 35: 716-723.
5. Thompson, L.H., et al. 2009. Cellular and molecular consequences of defective Fanconi anemia proteins in replication-coupled DNA repair: mechanistic insights. Mutat. Res. 668: 54-72.
6. García, M.J., et al. 2009. Analysis of FANCB and FANCN/PALB2 Fanconi anemia genes in BRCA1/2-negative Spanish breast cancer families. Breast Cancer Res. Treat. 113: 545-551.
7. Cao, A.Y., et al. 2009. Five common single nucleotide polymorphisms in the PALB2 gene and susceptibility to breast cancer in eastern Chinese population. Breast Cancer Res. Treat. 123: 133-138.

CHROMOSOMAL LOCATION

Genetic locus: PALB2 (human) mapping to 16p12.2; Palb2 (mouse) mapping to 7 F3.

SOURCE

PALB2 (G-13) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of PALB2 of human 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-160647 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PALB2 (G-13) is recommended for detection of PALB2 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).

PALB2 (G-13) is also recommended for detection of PALB2 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for PALB2 siRNA (h): sc-93396, PALB2 siRNA (m): sc-151997, PALB2 shRNA Plasmid (h): sc-93396-SH, PALB2 shRNA Plasmid (m): sc-151997-SH, PALB2 shRNA (h) Lentiviral Particles: sc-93396-V and PALB2 shRNA (m) Lentiviral Particles: sc-151997-V.

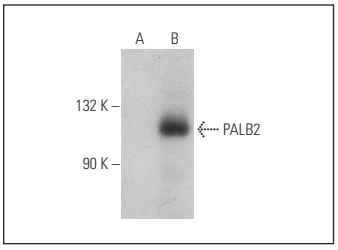
Molecular Weight of PALB2: 130 kDa.

Positive Controls: PALB2 (m2): 293T Lysate: sc-127294 or mouse brain extract: sc-2253.

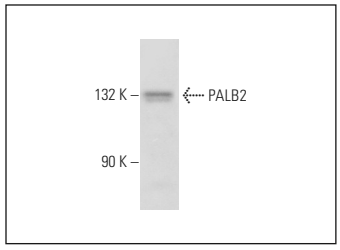
RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



PALB2 (G-13): sc-160647. Western blot analysis of PALB2 expression in non-transfected: sc-117752 (**A**) and mouse PALB2 transfected: sc-127294 (**B**) 293T whole cell lysates.



PALB2 (G-13): sc-160647. Western blot analysis of PALB2 expression in mouse brain tissue extract.

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.