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PALB2 Antibody

Catalog # ASC10949

Product Information

Application	WB, E
Primary Accession	Q86YC2
Other Accession	Q86YC2, 74727919
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	131295
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	PALB2 antibody can be used for detection of PALB2 by Western blot at 1 - 2 g/mL.

Additional Information

Gene ID	79728
Other Names	Partner and localizer of BRCA2, PALB2, FANCN
Target/Specificity	PALB2; At least four isoforms of PALB2 are known to exist; this antibody will detect all four isoforms.
Reconstitution & Storage	PALB2 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.
Precautions	PALB2 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	PALB2
Synonyms	FANCN
Function	Plays a critical role in homologous recombination repair (HRR) through its ability to recruit BRCA2 and RAD51 to DNA breaks (PubMed:16793542, PubMed:19369211, PubMed:19423707, PubMed:22941656, PubMed:24141787, PubMed:28319063). Strongly stimulates the DNA strand-invasion activity of RAD51, stabilizes the nucleoprotein filament against a disruptive BRC3-BRC4 polypeptide and helps RAD51 to overcome the suppressive effect of replication protein A (RPA) (PubMed:20871615). Functionally cooperates with RAD51AP1 in promoting of D-loop formation by

RAD51 (PubMed:20871616). Serves as the molecular scaffold in the formation of the BRCA1-PALB2-BRCA2 complex which is essential for homologous recombination (PubMed:19369211). Via its WD repeats is proposed to scaffold a HR complex containing RAD51C and BRCA2 which is thought to play a role in HR-mediated DNA repair (PubMed:24141787). Essential partner of BRCA2 that promotes the localization and stability of BRCA2 (PubMed:16793542). Also enables its recombinational repair and checkpoint functions of BRCA2 (PubMed:16793542). May act by promoting stable association of BRCA2 with nuclear structures, allowing BRCA2 to escape the effects of proteasome-mediated degradation (PubMed:16793542). Binds DNA with high affinity for D loop, which comprises single-stranded, double-stranded and branched DNA structures (PubMed:20871616). May play a role in the extension step after strand invasion at replication-dependent DNA double-strand breaks; together with BRCA2 is involved in both POLH localization at collapsed replication forks and DNA polymerization activity (PubMed:24485656).

Cellular Location Nucleus Note=Colocalizes with BRCA2 and BRCA1 in nuclear foci

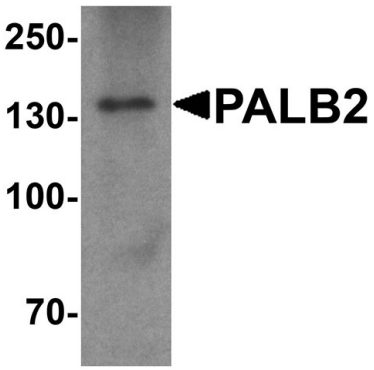
Background

PALB2 Antibody: The breast cancer early onset proteins BRCA1 and BRCA2 are central to the repair of DNA damage by homologous recombination and are strongly associated with inherited breast and ovarian cancer. The protein PALB2 is required for the localization of BRCA2 to sites of DNA damage and like BRCA1 and 2 is a breast cancer susceptibility gene. PALB2 is thought to function through directly binding to BRCA1, which allows the PALB2 protein to organize BRCA2 and the recombinase RAD51 at the site of DNA damage. Analysis of the BRCA1-PALB2-BRCA2-RAD51network may allow predictions to be made of the responsiveness of a particular tumor to therapeutic treatments.

References

Greenberg RA. Recognition of DNA double strand breaks by the BRCA1 tumor suppressor network. Chromosoma 2008; 117:305-17.
Xia B, Sheng Q, Nakanishi K, et al. Control of BRCA2 cellular and clinical functions by a nuclear partner, PALB. Mol. Cell 2007; 22:719-29.
Rahman N, Seal S, Thompson D, et al. PALB2, which encodes a BRCA2-interacting protein, is a breast cancer susceptibility gene. Nat. Genet. 2007; 39:165-7.
Zhang F, Fan Q, Ren K, et al. PALB2 functionally connects the breast cancer susceptibility proteins BRCA1 and BRCA2. Mol. Cancer. Res. 2009; 7:1110-8.

Images



Western blot analysis of PALB2 in SK-N-SH cell lysate with PALB2 antibody at 1 µg/mL.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.