abcam

Product datasheet

Anti-BRCA1 antibody ab47573

1 Abreviews 1 图像

概述

产品名称	Anti-BRCA1抗体
描述	兔多克隆抗体to BRCA1
宿主	Rabbit
特异性	This antibody detects endogenous levels of total BRCA1 protein.
经测试应用	**适用于:** IHC-P, ELISA
种属反应性	**与反应:** Mouse, Human
免疫原	Synthetic non-phosphopeptide derived from human BRCA1 around the phosphorylation site of serine 1524 (Y-P-S^{P}-Q-E).
阳性对照	IHC-P: Human breast carcinoma tissue.

性能

形式	Liquid
存放说明	Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C.
存储溶液	Preservative: 0.02% Sodium Azide Constituents: 50% Glycerol, PBS, 150mM Sodium chloride, pH 7.4
纯度	Immunogen affinity purified
纯化说明	The antibody was affinity purified from rabbit antiserum by affinity chromatography using epitope specific immunogen.
克隆	多克隆
同种型	IgG

应用

The Abpromise guarantee Abpromise™承诺保证使用ab47573于以下的经测试应用

"应用说明"部分 下显示的仅为推荐的起始稀释度;实际最佳的稀释度/浓度应由使用者检定。

应用	Ab评论	说明
IHC-P	(1)	Use at an assay dependent concentration.

应用	Ab评论	说明
ELISA		1/20000.

靶标

功能

E3 ubiquitin-protein ligase that specifically mediates the formation of 'Lys-6'-linked polyubiquitin chains and plays a central role in DNA repair by facilitating cellular responses to DNA damage. It is unclear whether it also mediates the formation of other types of polyubiquitin chains. The E3 ubiquitin-protein ligase activity is required for its tumor suppressor function. The BRCA1-BARD1 heterodimer coordinates a diverse range of cellular pathways such as DNA damage repair, ubiquitination and transcriptional regulation to maintain genomic stability. Regulates centrosomal microtubule nucleation. Required for normal cell cycle progression from G2 to mitosis. Required for appropriate cell cycle arrests after ionizing irradiation in both the S-phase and the G2 phase of the cell cycle. Involved in transcriptional regulation of P21 in response to DNA damage. Required for FANCD2 targeting to sites of DNA damage. May function as a transcriptional regulator. Inhibits lipid synthesis by binding to inactive phosphorylated ACACA and preventing its dephosphorylation. Contributes to homologous recombination repair (HRR) via its direct interaction with PALB2, fine-tunes recombinational repair partly through its modulatory role in the PALB2-dependent loading of BRCA2-RAD51 repair machinery at DNA breaks.

组织特异性

Isoform 1 and isoform 3 are widely expressed. Isoform 3 is reduced or absent in several breast and ovarian cancer cell lines.

通路

Protein modification; protein ubiquitination.

疾病相关

Defects in BRCA1 are a cause of susceptibility to breast cancer (BC) [MIM:114480]. A common malignancy originating from breast epithelial tissue. Breast neoplasms can be distinguished by their histologic pattern. Invasive ductal carcinoma is by far the most common type. Breast cancer is etiologically and genetically heterogeneous. Important genetic factors have been indicated by familial occurrence and bilateral involvement. Mutations at more than one locus can be involved in different families or even in the same case. Note=Mutations in BRCA1 are thought to be responsible for 45% of inherited breast cancer. Moreover, BRCA1 carriers have a 4-fold increased risk of colon cancer, whereas male carriers face a 3-fold increased risk of prostate cancer. Cells lacking BRCA1 show defects in DNA repair by homologous recombination.
Defects in BRCA1 are a cause of susceptibility to breast-ovarian cancer familial type 1 (BROVCA1) [MIM:604370]. A condition associated with familial predisposition to cancer of the breast and ovaries. Characteristic features in affected families are an early age of onset of breast cancer (often before age 50), increased chance of bilateral cancers (cancer that develop in both breasts, or both ovaries, independently), frequent occurrence of breast cancer among men, increased incidence of tumors of other specific organs, such as the prostate. Note=Mutations in BRCA1 are thought to be responsible for more than 80% of inherited breast-ovarian cancer.
Defects in BRCA1 are a cause of genetic susceptibility to ovarian cancer [MIM:113705].

序列相似性

Contains 2 BRCT domains.
Contains 1 RING-type zinc finger.

结构域

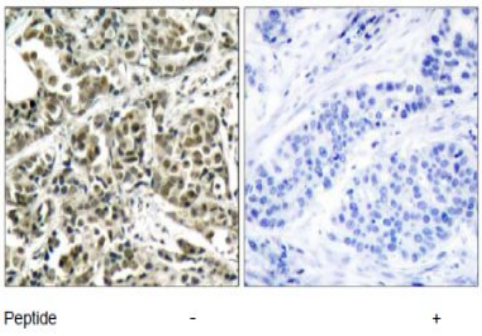
The BRCT domains recognize and bind phosphorylated pSXXF motif on proteins. The interaction with the phosphorylated pSXXF motif of FAM175A/Abraxas, recruits BRCA1 at DNA damage sites.
The RING-type zinc finger domain interacts with BAP1.

翻译后修饰

Phosphorylation at Ser-308 by STK6/AURKA is required for normal cell cycle progression from G2 to mitosis. Phosphorylated in response to IR, UV, and various stimuli that cause checkpoint

	activation, probably by ATM or ATR. Autoubiquitinated, undergoes 'Lys-6'-linked polyubiquitination. 'Lys-6'-linked polyubiquitination does not promote degradation.
细胞定位	Cytoplasm; Nucleus. Localizes at sites of DNA damage at double-strand breaks (DSBs) and recruitment to DNA damage sites is mediated by the BRCA1-A complex.

图片



Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-BRCA1 antibody (ab47573)

This image shows human breast carcinoma stained with ab47573 at 1/50 dilution. Right hand image shows tissue treated with the immunogenic peptide, whereas the left hand image is untreated.

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