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Product datasheet

Recombinant Human BRCA1 protein ab82204

2 References 1 Image

Description

Product name	Recombinant Human BRCA1 protein
Purity	> 95 % SDS-PAGE. Purified by affinity and FPLC chromatography.
Expression system	Baculovirus infected insect cells
Accession	P38398
Protein length	Full length protein
Animal free	No
Nature	Recombinant
Species	Human
Sequence	MDLSALRVEEVQNVINAMQKILECPICLELIKEPVSTKCDHI FCKFCMLK LLNQKKGPSQCPLCKNDITKRSLQESTRFSQLVEELLKIIC AFQLDTGLE YANSYNFAKKENNSPEHLKDEVSIIQSMGYRNRAKRLLQS EPENPSLQET SLSVQLSNLGTVRTLRTKQRIQPQKTSVYIELGSDSSEDTV NKATYCSVG DQELLQITPQGTRDEISLDSAKKAACEFSETDVTNTEHHQ PSNNDLNTTE KRAAERHPEKYQGSSVSNLHVEPCGTNTHASSLQHENSS LLLTKDRMNVE KAEFCNKSKQPGLARSQHNRWAGSKETCNDRRTPSTEK KVDLNADPLCER KEWNKQKLPCSENPRDTEDVPWITLNSSIQKVNEWFSRS DELLGSDDSHD GESESNAKVADVLDVLNEVDEYSGSSEKIDLLASDPHEA LICKSERVHSK SVESNIEDKIFGKTYRKKASLPNLSHVTENLIIGAFVTEPQIIQ ERPLTN KLKRKRRPTSGLHPEDFIKKADLAVQKTPEMINQGTNQTE QNGQVMNITN SGHENKTKGDSIQNEKNPNPIESLEKESAFKTKAEPISSSI SNMELELNI HNSKAPKKNRLRRKSSTRHIHALELVVSRNLSPPNCTELQI

DSCSSSEEI
KKKKYNQMPVRHSRNLQLMEGKEPATGAKKSNKPNEQT
SKRHDSDTFPEL
KLTNAPGSFTKCSNTSELKEFVNPSLPREEKEEKLETVKV
SNNAEDPKDL
MLSGERVLQTERSVESSSISLVPGTDYGTQESISLLEVSTL
GKAKTEPNK
CVSQCAAFENPKGLIHGCSKDNRNDTEGFKYPLGHEVNH
SRETSIEMEES
ELDAQYLQNTFKVSKRQSFAPFSNPGNAEEECATFSAHS
GSLKKQSPKVT
FECEQKEENQGKNESNIKPVQTVNITAGFPVVGQKDKPV
DNAKCSIKGGS
RFCLSSQFRGNETGLITPNKHGLLQNPYRIPPLFPIKSFVKT
KCKKNLLE
ENFEEHSMSPEREMGNENIPSTVSTISRNNIRENVFKEAS
SSNINEVGSS
TNEVGSSINEIGSSDENIQAELGRNRGPKLNAMLRLGVLQP
EVYKQSLPG
SNCKHPEIKKQEYEEVVQTVNTDFSPYLISDNLEQPMGSS
HASQVCSETP
DDLLDDGEIKEDTSFAENDIKESSAVFSKSVQKGELSRSP
SPFTHTHLAQ
GYRRGAKKLESSEENLSSEDEELPCFQHLLFGKVNNIPSQ
STRHSTVATE
CLSKNTEENLLSLKNSLNDCSNQVILAKASQEHHLSEETK
CSASLFSSQC
SELEDLTANTNTQDPFLIGSSKQMRHQSESQGVGLSDKE
LVSDDEERGTG
LEENNQEEQSMDSNLGEAASGCESETSVSEDCSGLSSQ
SDILTTQQRDTM
QHNLIKLQQEMAELEAVLEQHGSQPSNSYPSIISDSSALED
LRNPEQSTS
EKAVLTSQKSSEYPISQNPEGLSADKFEVSADSSTSKNK
EPGVERSSPSK
CPSLDDRWYMHSCSGSLQNRNYPSQEELIKVVDVEEQQL
EESGPHDLTET
SYLPRQDLEGTPYLESGISLFSDDPESDPSEDRAPESARV
GNIPSSTSAL
KVPQLKVAESAQSPAAAHTTDTAGYNAMEESVSREKPEL
TASTERVNKRM
SMVVSGLTPEEFMLVYKFARKHHITLTNLITEETTHVVMKT
DAEFVCERT
LKYFLGIAGGKWVVSYFWVTQSIKERKMLNEHDFEVRGD
VVNGRNHQGPK
RARESQDRKIFRGLEICCYGPFTNMPTDQLEWMVQLCGA
SVVKELSSFTL
GTGVHPIVVVQPDAWTEDNGFHAIGQMCEAPVVTREWVL
DSVALYQCQEL DTYLIPQIPHSHY

Predicted molecular weight	209 kDa
Amino acids	1 to 1863

Tags	His tag C-Terminus
Additional sequence information	This protein has a 6x His tag at the C-terminus. NM_007294

Specifications

Our **Abpromise guarantee** covers the use of **ab82204** in the following tested applications.

The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Applications	SDS-PAGE
Form	Liquid

Preparation and Storage

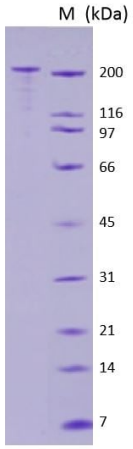
Stability and Storage	Shipped on dry ice. Upon delivery aliquot and store at -80ºC. Avoid freeze / thaw cycles. pH: 7.9 Constituents: 0.75% Potassium chloride, 0.0154% DTT, 0.316% Tris HCl, 0.00584% EDTA, 20% Glycerol (glycerin, glycerine)

General Info

Function	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.
Tissue specificity	Isoform 1 and isoform 3 are widely expressed. Isoform 3 is reduced or absent in several breast and ovarian cancer cell lines.
Pathway	Protein modification; protein ubiquitination.
Involvement in disease	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].
Sequence similarities	Contains 2 BRCT domains. Contains 1 RING-type zinc finger.
Domain	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.
Post-translational modifications	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.
Cellular localization	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.

Images



SDS-PAGE - Recombinant Human BRCA1 protein (ab82204)

SDS-PAGE analysis of ab82204.

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