

Recombinant Human breast cancer 2, early onset Protein, Flag tagged

Cat. No. BRCA2-182H **Lot. No.** (See product label)

SPECIFICATION

Product Overview

Recombinant human BRCA2 protein (P51587) (Pro 3280-Ile 3418) with a Flag tag at the C-terminus was expressed E. coli.

Species

Human

Source

E.coli

ProteinLength

3280-3418aa

Description

Involved in double-strand break repair and/or homologous recombination. Binds RAD51 and potentiates recombinational DNA repair by promoting assembly of RAD51 onto single-stranded DNA (ssDNA). Acts by targeting RAD51 to ssDNA over double-stranded DNA, enabling RAD51 to displace replication protein-A (RPA) from ssDNA and stabilizing RAD51-ssDNA filaments by blocking ATP hydrolysis. Part of a PALB2-scaffolded HR complex containing RAD51C and which is thought to play a role in DNA repair by HR. May participate in S phase checkpoint activation. Binds selectively to ssDNA, and to ssDNA in tailed duplexes and replication fork structures. May play a role in the extension step after strand invasion at replication-dependent DNA double-strand breaks; together with PALB2 is involved in both POLH localization at collapsed replication forks and DNA polymerization activity. In concert with NPM1, regulates centrosome duplication. Interacts with the TREX-2 complex (transcription and export complex 2) subunits PCID2 and SEM1, and is required to prevent R-loop-associated DNA damage and thus transcription-associated genomic instability.

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Silencing of BRCA2 promotes R-loop accumulation at actively transcribed genes in replicating and non-replicating cells, suggesting that BRCA2 mediates the control of R-loop associated genomic instability, independently of its known role in homologous recombination.

Tag	C-Flag
Molecular Mass	17.1 kDa
Endotoxin	Less than 1.0 EU/μg by the LAL method.
Purity	>95% as determined by SDS-PAGE.
Storage	Please avoid repeated freeze-thaw cycles. Samples are stable for up to twelve months from date of receipt at -20 to -80 centigrade. It is recommended that aliquot the reconstituted solution to minimize freeze-thaw cycles.
Storage Buffer	Lyophilized from a 0.2 μm filtered solution of PBS, pH7.4, 5% Trehalose, 5% mannitol.
Reconstitution	Reconstitute at 250 μg/mL in sterile water.

GENE INFORMATION

Gene Name	BRCA2 breast cancer 2, early onset [Homo sapiens (human)]
Official Symbol	BRCA2
Synonyms	BRCA2; breast cancer 2, early onset; FACD, FANCD, FANCD1, Fanconi anemia, complementation group D1; breast cancer type 2 susceptibility protein; BRCA1/BRCA2 containing complex; subunit 2; BRCC2; FAD; FAD1; fanconi anemia

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group D1 protein; breast cancer 2 tumor suppressor; BRCA1/BRCA2-containing complex, subunit 2; breast cancer susceptibility protein BRCA2; breast and ovarian cancer susceptibility gene, early onset; FACD; GLM3; FANCB; FANCD; PNCA2; FANCD1; BROVCA2;

Gene ID [675](#)

mRNA Refseq [NM_000059](#)

Protein Refseq [NP_000050](#)

MIM [600185](#)

UniProt ID [P51587](#)

Protein on SDS-PAGE under reducing (R) condition.

