Rabbit FANCD2 Polyclonal Antibody | anti-FANCD2 antibody

Phospho-FANCD2 (Ser717) Antibody

CATALOG #	HOST	REACTIVITY	APPLICATIONS
AAA329935	**Rabbit**	**Human, MousePredicted Reactivity: Rabbit (100%)**	**ELISA, Immunocytochemistry, Immunofluorescence, Western Blot**

PRODUCT SYNONYMS

FANCD2; Polyclonal Antibody; Phospho-FANCD2 (Ser717) Antibody; DKFZp762A223; FA 4; FA D2; FA4; FAC D2; FACD 2; FACD; FACD2; FACD2_HUMAN; FAD; FAD2; FANC D2; FANCD 2; FANCD; FANCONI ANEMIA COMPLEMENTATION GROUP D; Fanconi anemia complementation group D2; Fanconi anemia group D2 protein; FANCONI PANCYTOPENIA TYPE 4; FLJ23826; OTTHUMP00000158853; OTTHUMP00000207925; Protein FACD2; Type 4 Fanconi pancytopenia; anti-FANCD2 antibody

PRODUCT SPECIFICATIONS

Host	Rabbit
Reactivity	Human, Mouse Predicted Reactivity: Rabbit (100%)
Clonality	Polyclonal
Isotype	Rabbit IgG
Specificity	Phospho-FANCD2 (Ser717) Antibody detects endogenous levels of FANCD2 only when phosphorylated at Ser717. Tissue Specificity: Highly expressed in germinal center cells of the spleen, tonsil, and reactive lympHnodes, and in the proliferating basal layer of squamous epithelium of tonsil, esophagus, oropharynx, larynx and cervix. Expressed in cytotrophoblastic cells of the placenta and exocrine cells of the pancreas (at protein level). Highly expressed in testis, where expression is restricted to maturing spermatocytes.
Purity/Purification	The antibody is from purified rabbit serum by affinity purification via sequential chromatography on phospho-peptide and non-phospho-peptide affinity columns.
Form/Format	Liquid. Rabbit IgG in phosphate buffered saline, pH7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol.
Concentration	1mg/ml (varies by lot)
Applicable Applications for anti-FANCD2 antibody	ELISA (Peptide ELISA), ICC (Immunocytochemistry), IF (Immunofluorescence), WB (Western Blot)
Immunogen	A synthesized peptide derived from human FANCD2 around the phosphorylation site of Ser717.
Conjugation	Unconjugated
Fragment	Fab fragment
Post Translational Modifications	Monoubiquitinated on Lys-561 during S phase and upon genotoxic stress by FANCL in complex with E2 ligases UBE2T or UBE2W (isoform 1 and isoform 2). Deubiquitinated by USP1 as cells enter G2/M, or once DNA repair is completed. Monoubiquitination requires the joint intervention of the FANC core complex, including FANCA, FANCB, FANCC, FANCE, FANCF, FANCG, and FANCM, and proteins involved in cell cycle checkpoints and DNA repair, including RPA1, ATR, CHEK1 and BRCA1, and is mediated by FANCL/PHF9. Ubiquitination is required for binding to chromatin, interaction with BRCA1, BRCA2 and MTMR15/FAN1, DNA repair, and normal cell cycle progression, but not for phosphorylation on Ser-222 or interaction with MEN1.Phosphorylated in response to various genotoxic stresses by ATM and/or ATR. Upon ionizing radiation, phosphorylated by ATM on Ser-222 and Ser-1404. Phosphorylation on Ser-222 is required for S-phase checkpoint activation, but not for ubiquitination, foci formation, or DNA repair. In contrast, phosphorylation by ATR on other sites may be required for ubiquitination and foci formation.

Subunit Structure	Interacts directly with FANCE and FANCI. Interacts with USP1 and MEN1. The ubiquitinated form specifically interacts with BRCA1 and BLM. Both the nonubiquitinated and the monoubiquitinated forms interact with BRCA2; this interaction is mediated by phosphorylated FANCG and the complex also includes XCCR3. The ubiquitinated form specifically interacts with MTMR15/FAN1 (via UBZ-type zinc finger), leading to recruit MTMR15/FAN1 to sites of DNA damage. Interacts with DCLRE1B/Apollo. Interacts with POLN.
Similarity	The C-terminal 24 residues of isoform 2 are required for its function.
Subcellular Location	Nucleus. Note: Concentrates in nuclear foci during S phase and upon genotoxic stress. At the onset of mitosis, excluded from chromosomes and diffuses into the cytoplasm, returning to the nucleus at the end of cell division. Observed in a few spots localized in pairs on the sister chromatids of mitotic chromosome arms and not centromeres, one on each chromatids. These foci coincide with common fragile sites and could be sites of replication fork stalling. The foci are frequently interlinked through BLM-associated ultra-fine DNA bridges. Following aphidicolin treatment, targets chromatid gaps and breaks.
Preparation and Storage	Store at -20 degree C. Stable for 12 months from date of receipt.

IMAGES

IF (Immunofluorescence)
Staining HT29 by IF/ICC. The sample were fixed with PFA and permeabilized in 0.1% Triton X-100,then blocked in 10% serum for 45 minutes at 25 degree C. The primary antibody was diluted at 1/200 and incubated with the sample for 1 hour at 37 degree C. An Alexa Fluor 594 conjugated goat anti-rabbit IgG (H+L) Ab, diluted at 1/600, was used as the secondary antibody.

WB (Western Blot)
Western blot analysis FANCD2 (Phospho-Ser717) using Mouse brain tissue lysates.-/+ means absence or presence of N peptideï¼ˆnon-phospho peptide) and P peptide(phospho peptide).

ADDITIONAL INFORMATION

Related Product Information for anti-FANCD2 antibody	Required for maintenance of chromosomal stability. Promotes accurate and efficient pairing of homologs during meiosis. Involved in the repair of DNA double-strand breaks, both by homologous recombination and single-strand annealing. May participate in S phase and G2 phase checkpoint activation upon DNA damage. Plays a role in preventing breakage and loss of missegregating chromatin at the end of cell division, particularly after replication stress. Required for the targeting, or stabilization, of BLM to non-centromeric abnormal structures induced by replicative stress. Promotes BRCA2/FANCD1 loading onto damaged chromatin. May also be involved in B-cell immunoglobulin isotype switching.

NCBI AND UNIPROT INFORMATION

NCBI GI #	66528888
NCBI GeneID	2177
NCBI Accession #	NP_001018125.1
NCBI GenBank Nucleotide #	NM_001018115.1
UniProt Accession #	Q9BXW9; Q2LA86; Q69YP9; Q6PJN7; Q9BQ06; Q9H9T9
Molecular Weight	166,462 Da
NCBI Official Full Name	Fanconi anemia group D2 protein isoform b
NCBI Official Synonym Full Names	Fanconi anemia, complementation group D2
NCBI Official Symbol	FANCD2
NCBI Official Synonym Symbols	FA4; FAD; FACD; FAD2; FA-D2; FANCD
NCBI Protein Information	Fanconi anemia group D2 protein

UniProt Protein Name	Fanconi anemia group D2 protein
UniProt Gene Name	**FANCD2**
UniProt Synonym Gene Names	FACD; Protein FACD2
UniProt Entry Name	FACD2_HUMAN

For Research Use Only. Not for use in diagnostic or therapeutic procedures. Small volumes of product may become entrapped in the seal of the vial during shipment and storage; if necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the cap.

AAA Biotech | Tel: +1 (619) 604-9440 | Fax: +1 (619) 604-9441 | contact@aaabiotech.com
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