ARG58645
anti-FANCD2 antibody

Package: 100 µl
Store at: -20°C

Summary

Product Description	Rabbit Polyclonal antibody recognizes FANCD2
Tested Reactivity	Hu, Rat
Tested Application	ICC/IF, IP, WB
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Target Name	FANCD2
Species	Human
Immunogen	Recombinant fusion protein corresponding to aa. 1-230 of Human FANCD2 (NP_149075.2).
Conjugation	Un-conjugated
Alternate Names	Protein FACD2; FAD2; Fanconi anemia group D2 protein; FACD; FANCD; FA4; FAD; FA-D2

Application Instructions

Application table

Application	Dilution
ICC/IF	1:50 - 1:200
IP	Assay-dependent
WB	1:500 - 1:2000

Application Note: * The dilutions indicate recommended starting dilutions and the optimal dilutions or concentrations should be determined by the scientist.

Positive Control: Jurkat

Observed Size: 175 kDa

Properties

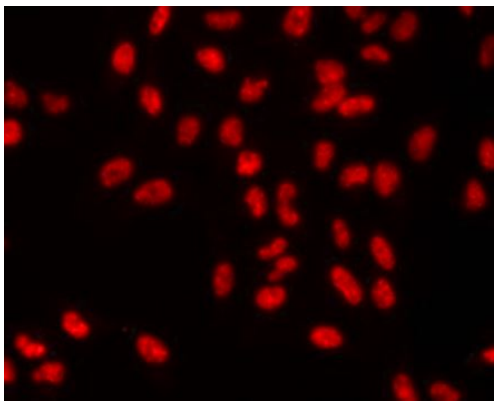
Form	Liquid
Purification	Affinity purified.
Buffer	PBS (pH 7.3), 0.02% Sodium azide and 50% Glycerol.
Preservative	0.02% Sodium azide
Stabilizer	50% Glycerol
Storage instruction	For continuous use, store undiluted antibody at 2-8°C for up to a week. For long-term storage, aliquot and store at -20°C. Storage in frost free freezers is not recommended. Avoid repeated freeze/thaw cycles. Suggest spin the vial prior to opening. The antibody solution should be gently mixed before use.

Note	For laboratory research only, not for drug, diagnostic or other use.

Bioinformation

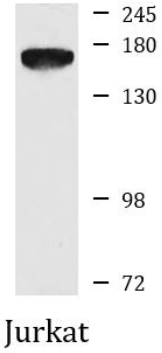
Gene Symbol	FANCD2
Gene Full Name	Fanconi anemia, complementation group D2
Background	The Fanconi anemia complementation group (FANC) currently includes FANCA, FANCB, FANCC, FANCD1 (also called BRCA2), FANCD2, FANCE, FANCF, FANCG, FANCI, FANCJ (also called BRIP1), FANCL, FANCM and FANCN (also called PALB2). The previously defined group FANCH is the same as FANCA. Fanconi anemia is a genetically heterogeneous recessive disorder characterized by cytogenetic instability, hypersensitivity to DNA crosslinking agents, increased chromosomal breakage, and defective DNA repair. The members of the Fanconi anemia complementation group do not share sequence similarity; they are related by their assembly into a common nuclear protein complex. This gene encodes the protein for complementation group D2. This protein is monoubiquinated in response to DNA damage, resulting in its localization to nuclear foci with other proteins (BRCA1 AND BRCA2) involved in homology-directed DNA repair. Alternative splicing results in two transcript variants encoding different isoforms. [provided by RefSeq, Jul 2008]
Function	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. [UniProt]
Calculated Mw	164 kDa
PTM	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. [UniProt]
Cellular Localization	Nucleus. [UniProt]

Images



ARG58645 anti-FANCD2 antibody ICC/IF image

Immunofluorescence: MCF-7 cells stained with ARG58645 anti-FANCD2 antibody.



ARG58645 anti-FANCD2 antibody WB image

Western blot: 25 µg of Jurkat cell lysate stained with ARG58645 anti-FANCD2 antibody at 1:1000 dilution.