FANCD2 (Phospho Ser222) Rabbit pAb

CatalogNo: YP0630 Orthogonal Validated

Key Features

Host Species
- Rabbit

Reactivity
- Human,Mouse,Rat

Applications
- WB,IHC,IF,ELISA

MW
- 166kD (Observed)

Isotype
- IgG

Storage

Storage*	-15°C to -25°C/1 year(Do not lower than -25°C)
Formulation	Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.

Recommended Dilution Ratios

WB 1:500-1:2000
IHC 1:100-1:300
ELISA 1:5000
IF 1:50-200

Basic Information

Clonality	Polyclonal

Immunogen Information

Immunogen	The antiserum was produced against synthesized peptide derived from human FANCD2 around the phosphorylation site of Ser222. AA range:188-237

Specificity	Phospho-FANCD2 (S222) Polyclonal Antibody detects endogenous levels of FANCD2 protein only when phosphorylated at S222.The name of modified sites may be influenced by many factors, such as species (the modified site was not originally found in human samples) and the change of protein sequence (the previous protein sequence is incomplete, and the protein sequence may be prolonged with the development of protein sequencing technology). When naming, we will use the "numbers" in historical reference to keep the sites consistent with the reports. The antibody binds to the following modification sequence (lowercase letters are modification sites):GDsQH

Target Information

Gene name FANCD2

Protein Name Fanconi anemia group D2 protein

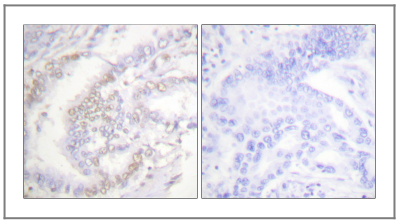
Organism	Gene ID	UniProt ID
Human	2177;	Q9BXW9;
Mouse	211651;	Q80V62;
Rat	312641;	Q6IV68;

Cellular Localization Nucleus . 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.

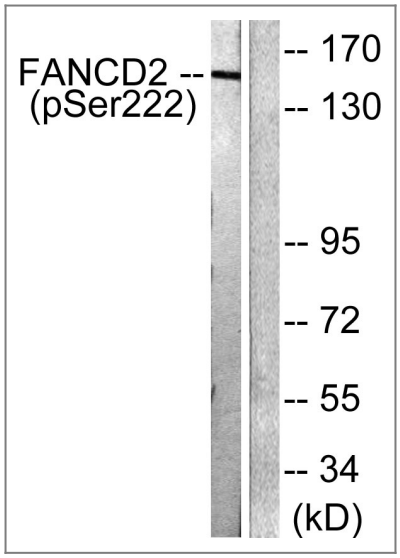
Tissue specificity Highly expressed in germinal center cells of the spleen, tonsil, and reactive lymph nodes, and in the proliferating basal layer of squamous epithelium of tonsil, esophagus, oropharynx, larynx and cervix. Expressed in cytotrophoblastic cells of the placenta and exocrine cells of the pancreas (at protein level). Highly expressed in testis, where expression is restricted to maturing spermatocytes.

Function	developmental stage:Highly expressed in fetal oocytes, and in hematopoietic cells of the fetal liver and bone marrow (at protein level).,Disease:Defects in FANCD2 are a cause of Fanconi anemia (FA) [MIM:227650]. FA is a genetically heterogeneous, autosomal recessive disorder characterized by progressive pancytopenia, a diverse assortment of congenital malformations, and a predisposition to the development of malignancies. At the cellular level it is associated with hypersensitivity to DNA-damaging agents, chromosomal instability (increased chromosome breakage), and defective DNA repair.,Domain:The C-terminal 24 residues of isoform 2 are required for its function.,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. Promotes BRCA2/FANCD1 loading onto damaged chromatin. May also be involved in B-cell immunoglobulin isotype switching.,PTM:Monoubiquitinated on Lys-561 during S phase and upon genotoxic stress (isoform 1 and isoform 2). Deubiquitinated by USP1 as cells enter G2/M, or once DNA repair is completed. Monoubiquitination requires the FANCA-FANCB-FANCC-FANCE-FANCF-FANCG-FANCM complex, RPA1 and ATR, and is mediated by FANCL/PHF9. Ubiquitination is required for binding to chromatin, interaction with BRCA1 and BRCA2, DNA repair, and normal cell cycle progression, but not for phosphorylation on Ser-222 or interaction with MEN1.,PTM: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.,subcellular location:Concentrates in nuclear foci during S phase and upon genotoxic stress.,subunit:Interacts directly with FANCE and FANCI. Interacts with USP1 and MEN1. The ubiquitinated form specifically interacts with BRCA1, BRCA2 and BLM.,tissue specificity:Highly expressed in germinal center cells of the spleen, tonsil, and reactive lymph nodes, 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.,

Validation Data



Immunohistochemistry analysis of paraffin-embedded human lung carcinoma, using FANCD2 (Phospho-Ser222) Antibody. The picture on the right is blocked with the phospho peptide.



Western blot analysis of lysates from HT29 cells treated with Calyculin A 50ng/ml 30', using FANCD2 (Phospho-Ser222) Antibody. The lane on the right is blocked with the phospho peptide.

Contact information

Orders:	order.cn@immunoway.com
Support:	support.cn@immunoway.com
Telephone:	400-8787-807(China)
Website:	http://www.immunoway.com.cn
Address:	2200 Ringwood Ave San Jose, CA 95131 USA

Please scan the QR code to access additional product information:
FANCD2 (Phospho Ser222) Rabbit pAb