


Product datasheet

Anti-FANCD2 (phospho S1404) antibody [EPR2278(2)] ab109542

Recombinant RabMAb

[1 Abreviews](#) [1 References](#) [2 Images](#)

Overview

| | |
|---------------------|--|
| Product name | Anti-FANCD2 (phospho S1404) antibody [EPR2278(2)] |
| Description | Rabbit monoclonal [EPR2278(2)] to FANCD2 (phospho S1404) |
| Host species | Rabbit |
| Tested applications | Suitable for: WB Unsuitable for: Flow Cyt, ICC/IF, IHC-P or IP |
| Species reactivity | Reacts with: Human Predicted to work with: Mouse  |
| Immunogen | Synthetic peptide. This information is proprietary to Abcam and/or its suppliers. |
| Positive control | HeLa whole cell lysate (ab150035) |
| General notes | <p>This product is a recombinant monoclonal antibody, which offers several advantages including:</p> <ul style="list-style-type: none"> - High batch-to-batch consistency and reproducibility - Improved sensitivity and specificity - Long-term security of supply - Animal-free production <p>For more information see here.</p> <p>Our RabMAb[®] technology is a patented hybridoma-based technology for making rabbit monoclonal antibodies. For details on our patents, please refer to RabMAb[®] patents.</p> <p>Rat: We have preliminary internal testing data to indicate this antibody may not react with this species. Please contact us for more information.</p> |

Properties

| | |
|----------------------|---|
| Form | Liquid |
| Storage instructions | Shipped at 4°C. Store at -20°C. Stable for 12 months at -20°C. |
| Storage buffer | <p>pH: 7.20</p> <p>Preservative: 0.05% Sodium azide</p> <p>Constituents: 0.1% BSA, 40% Glycerol (glycerin, glycerine), 9.85% Tris glycine, 50% Tissue culture supernatant</p> |

| | |
|---------------------|--------------------|
| Purity | Protein A purified |
| Clonality | Monoclonal |
| Clone number | EPR2278(2) |
| Isotype | IgG |

Applications

The Abpromise guarantee Our **Abpromise guarantee** covers the use of ab109542 in the following tested applications.

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

| Application | Abreviews | Notes |
|-------------|-----------|--|
| WB | | 1/1000 - 1/10000. Predicted molecular weight: 166 kDa. |

Application notes Is unsuitable for Flow Cyt, ICC/IF, IHC-P or IP.

Target

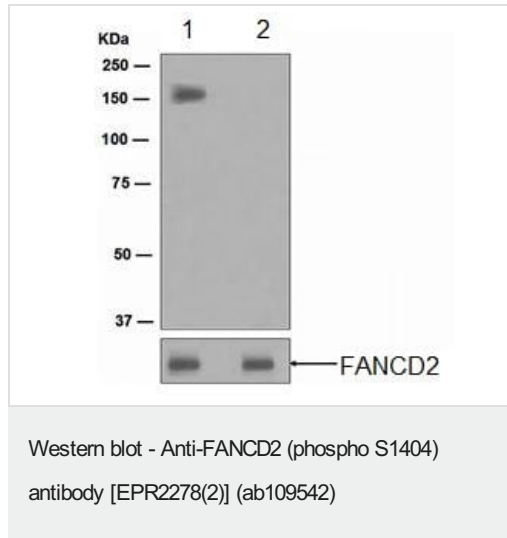
| | |
|---|---|
| Function | Required for maintenance of chromosomal stability. Promotes accurate and efficient pairing of homologs during meiosis. Involved in the repair of DNA double-strand breaks, both by homologous recombination and single-strand annealing. May participate in S phase and G2 phase checkpoint activation upon DNA damage. Promotes BRCA2/FANCD1 loading onto damaged chromatin. May also be involved in B-cell immunoglobulin isotype switching. |
| 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. |
| Involvement in disease | Defects in FANCD2 are a cause of Fanconi anemia complementation group D type 2 (FANCD2) [MIM:227646]. It is a disorder affecting all bone marrow elements and resulting in anemia, leukopenia and thrombopenia. It is associated with cardiac, renal and limb malformations, dermal pigmentary changes, 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. |
| Developmental stage | Highly expressed in fetal oocytes, and in hematopoietic cells of the fetal liver and bone marrow (at protein level). |
| Domain | The C-terminal 24 residues of isoform 2 are required for its function. |
| Post-translational modifications | 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, 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.

Cellular localization

Nucleus. Concentrates in nuclear foci during S phase and upon genotoxic stress.

Images



All lanes : Anti-FANCD2 (phospho S1404) antibody [EPR2278(2)] (ab109542) at 1/1000 dilution

Lane 1 : HeLa cell lysate, untreated

Lane 2 : HeLa cell lysate treated with Alkaline Phosphatase.

Lysates/proteins at 10 µg per lane.

Secondary

All lanes : HRP-labelled goat anti-rabbit at 1/2000 dilution

Predicted band size: 166 kDa

The lower panel is analysed using an alternative anti-FANCD2 antibody which is not phospho-specific.

Why choose a recombinant antibody?

Research with confidence
Consistent and reproducible results

Long-term and scalable supply
Recombinant technology

Success from the first experiment
Confirmed specificity

Ethical standards compliant
Animal-free production

Anti-FANCD2 (phospho S1404) antibody [EPR2278(2)] (ab109542)

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