abcam

Product datasheet

Anti-FANCD2 antibody ab2187

17 Abreviews 53 References 4 Images

Overview

Product name	Anti-FANCD2 antibody
Description	Rabbit polyclonal to FANCD2
Specificity	This antibody is specific for human FANC D2.
Tested applications	**Suitable for:** ICC/IF, WB, IP
Species reactivity	**Reacts with:** Mouse, Human
Immunogen	This antibody was made to an N-terminal fusion protein fragment (human).
Positive control	HeLa whole cell extracts.

Properties

Form	Liquid
Storage instructions	Shipped at 4°C. Upon delivery aliquot and store at -20°C or -80°C. Avoid repeated freeze / thaw cycles.
Storage buffer	Preservative: 0.05% Sodium Azide Constituents: Tris glycine, 150mM Sodium chloride
Purity	Immunogen affinity purified
Clonality	Polyclonal
Isotype	IgG

Applications

Our Abpromise guarantee covers the use of **ab2187** in the following tested applications.

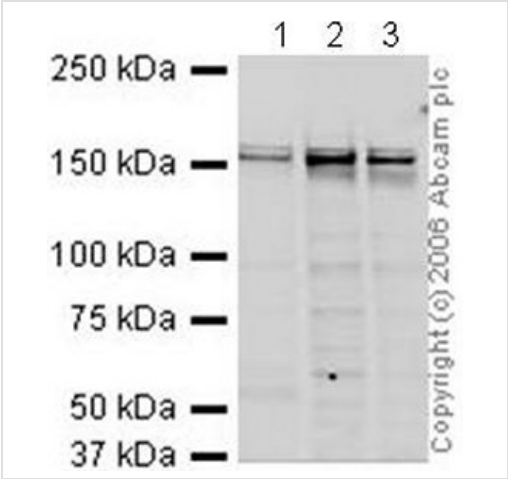
The application notes include recommended starting dilutions; optimal dilutions/concentrations should be determined by the end user.

Application	Abreviews	Notes
ICC/IF	★★★★☆	1/200 - 1/500.
WB	★★★★★	1/10000 - 1/20000. Detects a band of approximately 166 kDa (predicted molecular weight: 166 kDa).
IP	★☆☆☆☆	Use at an assay dependent dilution.

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



Western blot - Anti-FANCD2 antibody (ab2187)

All lanes : Anti-FANCD2 antibody (ab2187) at 1 µg/ml

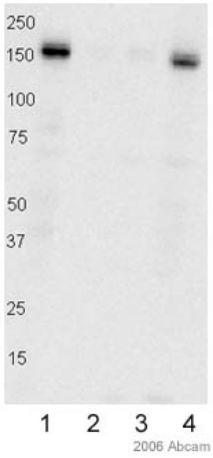
Lane 1 : A431 whole cell lysate (ab7909)
Lane 2 : Jurkat whole cell lysate (ab7899)
Lane 3 : HEK293 whole cell lysate (ab7902)

Lysates/proteins at 20 µg per lane.

Secondary
Goat polyclonal to Rabbit IgG (Alexa Fluor® 680) at 1/10000 dilution

Performed under reducing conditions.

Predicted band size : 166 kDa
Observed band size : 165 kDa



Western blot - Anti-FANCD2 antibody (ab2187)

This image is courtesy of an Abreview submitted by Mr Richard Allum

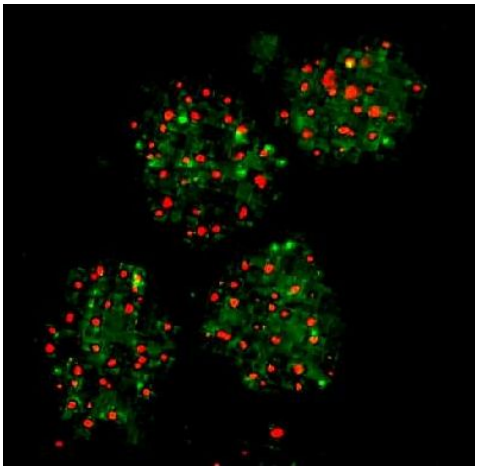
All lanes : Anti-FANCD2 antibody (ab2187) at 1/1500 dilution

Lane 1 : Wild type human breast - whole cell lysate (positive control)
Lane 2 : Transient D2 Knockdown 24 hours after transfection - whole cell lysate
Lane 3 : Transient D2 Knockdown 48 hours after transfection - whole cell lysate
Lane 4 : Transient D2 Knockdown 120 hours after transfection - whole cell lysate

Secondary
Goat polyclonal Secondary Antibody to Rabbit IgA - alpha chain (ab2758) at 1/1500 dilution

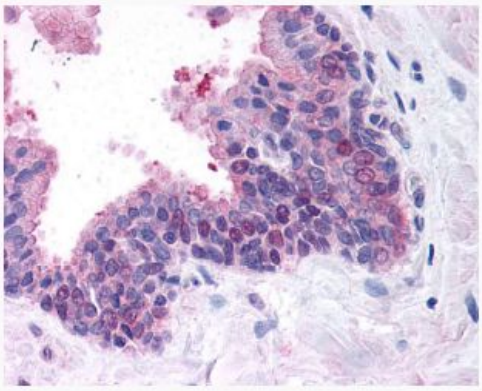
Predicted band size : 166 kDa
Observed band size : 160 kDa

This image is courtesy of an Abreview submitted by Mr Richard Allum



ab2187 at 1:500 staining FANCD2 in SiHa cells by ICC/IF. The proliferating SiHa cells were exposed to 10 Gy of IR and then double immunofluorescence staining was performed after 8 hours.

Immunocytochemistry/ Immunofluorescence - Anti-FANCD2 antibody (ab2187)



ab2187 at 2.5µg/ml staining FANCD2 in human prostate glandular tissue section by Immunohistochemistry (Fromlain/ PFA fixed paraffin-embedded tissue sections).

Immunohistochemistry (Formalin/PFA-fixed paraffin-embedded sections) - Anti-FANCD2 antibody (ab2187)

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