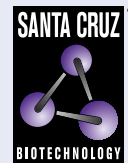


FANCD2 (FI17): sc-20022



The Power to Question

BACKGROUND

Fanconi anemia (FA) is an autosomal recessive disorder characterized by bone marrow failure, birth defects and chromosomal instability. At the cellular level, FA is characterized by spontaneous chromosomal breakage and a unique hypersensitivity to DNA cross-linking agents. At least eight complementation groups (A-G) have been identified and six FA genes (for subtypes A, C, D2, E, F and G) have been cloned. The FA proteins lack sequence homologies or motifs that could point to a molecular function. Phosphorylation of FANCD1 (Fanconi anemia complementation group) proteins are thought to be important for the function of the FA pathway. Several FA proteins, including FANCA, FANCC, FANCF and FANCG, interact in a nuclear complex, and this complex is required for the activation (monoubiquitination) of the downstream FANCD2 protein. When monoubiquitinated, the FANCD2 protein co-localizes with the breast cancer susceptibility protein BRCA1 in DNA damage induced foci. In male meiosis, FANCD2 also co-localizes with BRCA1 at synaptonemal complexes. The human FANCD2 gene maps to chromosome 3p25.3, contains 44 exons and encodes a 1,451 amino acid nuclear protein that exists as 2 protein isoforms.

CHROMOSOMAL LOCATION

Genetic locus: FANCD2 (human) mapping to 3p25.3.

SOURCE

FANCD2 (FI17) is a mouse monoclonal antibody raised against the N-terminus of FANCD2 fusion protein of human origin.

PRODUCT

Each vial contains 200 µg IgG₁ kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FANCD2 (FI17) is available conjugated to agarose (sc-20022 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-20022 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-20022 PE), fluorescein (sc-20022 FITC), Alexa Fluor® 488 (sc-20022 AF488), Alexa Fluor® 546 (sc-20022 AF546), Alexa Fluor® 594 (sc-20022 AF594) or Alexa Fluor® 647 (sc-20022 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-20022 AF680) or Alexa Fluor® 790 (sc-20022 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

FANCD2 (FI17) is recommended for detection of S and L isoforms of FANCD2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500).

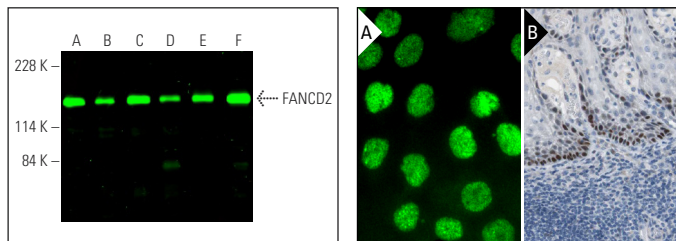
Suitable for use as control antibody for FANCD2 siRNA (h): sc-35356, FANCD2 shRNA Plasmid (h): sc-35356-SH and FANCD2 shRNA (h) Lentiviral Particles: sc-35356-V.

Molecular Weight of FANCD2: 150 kDa.

STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



FANCD2 (FI17): sc-20022. Near-infrared western blot analysis of FANCD2 expression in HeLa (A), MCF7 (B), K-562 (C) and HL-60 (D) nuclear extracts and NTERA-2 cl.D1 (E) and Jurkat (F) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

FANCD2 (FI17): sc-20022. Immunofluorescence staining of formalin-fixed A-431 cells showing nuclear localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human tonsil tissue showing nuclear staining of squamous epithelial cells at high magnification. Kindly provided by The Swedish Human Protein Atlas (HPA) program (B).

SELECT PRODUCT CITATIONS

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- Passerini, V., et al. 2016. The presence of extra chromosomes leads to genomic instability. *Nat. Commun.* 7: 10754.
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RESEARCH USE

For research use only, not for use in diagnostic procedures.