SANTA CRUZ BIOTECHNOLOGY, INC.

FANCG (F-8): sc-393382

SANTA CRUZ BIOTECHNOLOGY

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. The cellular accumulation of FA proteins, including FANCA and FANCG, is subject to regulation by TNF-α signaling. Phosphorylation of FANC (fanconi anemia complementation group) proteins is thought to be important for the function of the FA pathway. Phosphorylation of Serine 7 in FANCG is functionally important in the FA pathway. FANCG is localized majorly in the nucleus and minorly in the cytoplasm, and is highly expressed in testis and thymus.

REFERENCES

1. de Winter, J.P., et al. 2000. The Fanconi anemia protein FANCF forms a nuclear complex with FANCA, FANCC and FANCG. Hum. Mol. Genet. 9: 2665-2674.
2. Garcia-Higuera, I., et al. 2000. The Fanconi anemia proteins FANCA and FANCG stabilize each other and promote the nuclear accumulation of the Fanconi anemia complex. Blood 96: 3224-3230.
3. Futaki, M., et al. 2001. Fanconi anemia protein, FANCG, is a phosphoprotein and is upregulated with FANCA after TNF-α treatment. Biochem. Biophys. Res. Commun. 281: 347-351.

CHROMOSOMAL LOCATION

Genetic locus: FANCG (human) mapping to 9p13.3; Fancg (mouse) mapping to 4 A5.

SOURCE

FANCG (F-8) is a mouse monoclonal antibody raised against amino acids 323-622 mapping at the C-terminus of FANCG of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FANCG (F-8) is available conjugated to agarose (sc-393382 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-393382 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393382 PE), fluorescein (sc-393382 FITC), Alexa Fluor® 488 (sc-393382 AF488), Alexa Fluor® 546 (sc-393382 AF546), Alexa Fluor® 594 (sc-393382 AF594) or Alexa Fluor® 647 (sc-393382 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393382 AF680) or Alexa Fluor® 790 (sc-393382 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

STORAGE

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

APPLICATIONS

FANCG (F-8) is recommended for detection of FANCG of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FANCG siRNA (h): sc-92893, FANCG siRNA (m): sc-145065, FANCG shRNA Plasmid (h): sc-92893-SH, FANCG shRNA Plasmid (m): sc-145065-SH, FANCG shRNA (h) Lentiviral Particles: sc-92893-V and FANCG shRNA (m) Lentiviral Particles: sc-145065-V.

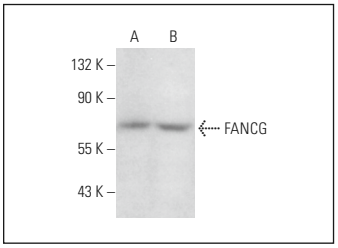
Molecular Weight of FANCG: 68 kDa.

Positive Controls: HUV-EC-C whole cell lysate: sc-364180, NCI-H1299 whole cell lysate: sc-364234 or HeLa nuclear extract: sc-2120.

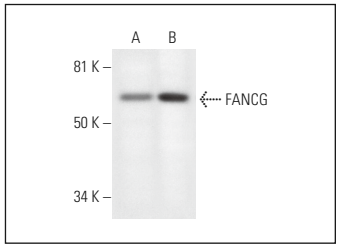
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850.

DATA



FANCG (F-8): sc-393382. Western blot analysis of FANCG expression in HeLa nuclear extract (**A**) and HUV-EC-C whole cell lysate (**B**).



FANCG (F-8): sc-393382. Western blot analysis of FANCG expression in NCI-H1299 whole cell lysate (**A**) and HeLa nuclear extract (**B**).

SELECT PRODUCT CITATIONS

1. Richardson, C.D., et al. 2018. CRISPR-Cas9 genome editing in human cells occurs via the Fanconi anemia pathway. Nat. Genet. 50: 1132-1139.
2. Munkhjargal, A., et al. 2021. Promyelocytic leukemia proteins regulate Fanconi anemia gene expression. Int. J. Mol. Sci. 22: 7782.

RESEARCH USE

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