SANTA CRUZ BIOTECHNOLOGY, INC.

# FANCF (D-2): sc-271952

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. Phosphorylation of FANC (Fanconi anemia complementation group) proteins is thought to be important for the function of the FA pathway. FA proteins are encoded by six cloned FA genes (FANCA, FANCC, FANCD2, FANCE, FANCF, and FANCG) and cooperate in a common pathway, culminating in the monoubiquitination of FANCD2 protein and colocalization of FANCD2 and BRCA1 proteins in nuclear foci. FANCF protein is required for FANCD2 activation and appears to stabilize other subunits of the complex. The human FANCF gene maps to chromosome 11p14.3 and encodes a nuclear protein with homology to the prokaryotic RNA-binding protein ROM.

## 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. Yagasaki, H., et al. 2001. A cytoplasmic serine protein kinase binds and may regulate the Fanconi anemia protein FANCA. Blood 98: 3650-3657.
3. Wilson, J.B., et al. 2001. The Chinese hamster FANCG/XRCC9 mutant NM3 fails to express the monoubiquitinated form of the FANCD2 protein, is hypersensitive to a range of DNA damaging agents and exhibits a normal level of spontaneous sister chromatid exchange. Carcinogenesis 22: 1939-1946.


## CHROMOSOMAL LOCATION

Genetic locus: FANCF (human) mapping to 11p14.3; Fancf (mouse) mapping to 7 B5.

## SOURCE

FANCF (D-2) is a mouse monoclonal antibody raised against amino acids 41-350 of FANCF 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.

FANCF (D-2) is available conjugated to agarose (sc-271952 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-271952 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271952 PE), fluorescein (sc-271952 FITC), Alexa Fluor® 488 (sc-271952 AF488), Alexa Fluor® 546 (sc-271952 AF546), Alexa Fluor® 594 (sc-271952 AF594) or Alexa Fluor® 647 (sc-271952 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-271952 AF680) or Alexa Fluor® 790 (sc-271952 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.



## APPLICATIONS

FANCF (D-2) is recommended for detection of FANCF 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).

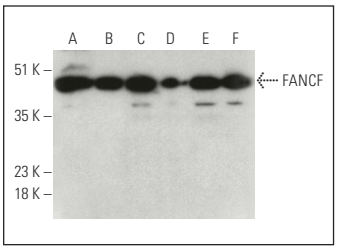
FANCF (D-2) is also recommended for detection of FANCF in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for FANCF siRNA (h): sc-40570, FANCF siRNA (m): sc-145064, FANCF shRNA Plasmid (h): sc-40570-SH, FANCF shRNA Plasmid (m): sc-145064-SH, FANCF shRNA (h) Lentiviral Particles: sc-40570-V and FANCF shRNA (m) Lentiviral Particles: sc-145064-V.

Molecular Weight of FANCF: 42 kDa.

Positive Controls: MOLT-4 cell lysate: sc-2233, SH-SY5Y cell lysate: sc-3812 or HeLa whole cell lysate: sc-2200.

## DATA




FANCF (D-2) HRP: sc-271952 HRP. Direct western blot analysis of FANCF expression in M1 (**A**), KNRK (**B**), MOLT-4 (**C**), HeLa (**D**), SH-SY5Y (**E**) and 3611-RF (**F**) whole cell lysates.

## SELECT PRODUCT CITATIONS


1. Yao, C., et al. 2015. Involvement of Fanconi anemia genes FANCD2 and FANCF in the molecular basis of drug resistance in leukemia. Mol. Med. Rep. 11: 4605-4610.
2. Fang, P., et al. 2018. Olaparib-induced adaptive response is disrupted by FOXM1 targeting that enhances sensitivity to PARP inhibition. Mol. Cancer Res. 16: 961-973.
3. Jin, L., et al. 2018. MAST1 drives cisplatin resistance in human cancers by rewiring cRaf-independent MEK activation. Cancer Cell 34: 315-330.e7.


## STORAGE

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

## RESEARCH USE

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