

FANCF (N-20): sc-19327

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 FANCF (Fanconi anemia complementation group) proteins is thought to be important for the function of the FA pathway. The FA proteins (FANCA, FANCC, FANCD2, FANCE, FANCF and FANCG) cooperate in a common pathway, culminating in the monoubiquitination of FANCD2 protein and co-localization 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.
4. Siddique, M.A., et al. 2001. Function of the Fanconi anemia pathway in Fanconi anemia complementation group F and D1 cells. *Exp. Hematol.* 29: 1448-1455.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 603467. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Taniguchi, T. and Dandrea, A.D. 2002. Molecular pathogenesis of Fanconi anemia. *Int. J. Hematol.* 75: 123-128.
7. Otsuki, T., et al. 2002. Phosphorylation of Fanconi anemia protein, FANCA, is regulated by Akt kinase. *Biochem. Biophys. Res. Commun.* 291: 628-634.

CHROMOSOMAL LOCATION

Genetic locus: FANCF (human) mapping to 11p14.3.

SOURCE

FANCF (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FANCF of human origin.

RESEARCH USE

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

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-19327 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FANCF (N-20) is recommended for detection of FANCF 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 solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of FANCF: 42 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker[™] Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.


 MONOS
 Satisfaction
 Guaranteed

Try **FANCF (D-2): sc-271952** or **FANCF (G-4): sc-271397**, our highly recommended monoclonal alternatives to FANCF (N-20).