

FANCM (N-15): sc-70277

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. The thirteen FA proteins that have been characterized are important for regulating chromosomal stability and genome surveillance. Eight of these proteins, namely FANCA, FANCB, FANCC, FANCE, FANCF, FANCG, FANCL and FANCM, comprise the FA core complex, which catalyzes a key reaction in DNA repair: the monoubiquitination of FANCD2. FANCM (Fanconi anemia, complementation group M) is a member of the DEAD-box helicase family of proteins and contains a DEAH helicase domain and a nuclease domain. Localizing to chromatin fractions, FANCM is phosphorylated in a cell cycle-dependent manner and is believed to function as an anchor, recruiting the FA core complex to chromatin. Mutations in the gene encoding FANCM can lead to Fanconi anemia.

REFERENCES

1. de Winter, J.P., van der Weel, L., de Groot, J., Stone, S., Waisfisz, Q., Arwert, F., Scheper, R.J., Kruyt, F.A., Hoatlin, M.E. and Joenje, H. 2000. The Fanconi anemia protein FANCF forms a nuclear complex with FANCA, FANCC and FANCG. *Hum. Mol. Genet.* 9: 2665-2674.
2. Yagasaki, H., Adachi, D., Oda, T., Garcia-Higuera, I., Tetteh, N., D'Andrea, A.D., Futaki, M., Asano, S. and Yamashita, T. 2001. A cytoplasmic serine protein kinase binds and may regulate the Fanconi anemia protein FANCA. *Blood* 98: 3650-3657.
3. Wilson, J.B., Johnson, M.A., Stuckert, A.P., Trueman, K.L., May, S., Bryant, P.E., Meyn, R.E., D'Andrea, A.D. and Jones, N.J. 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., Nakanishi, K., Taniguchi, T., Grompe, M. and D'Andrea, A.D. 2001. Function of the Fanconi anemia pathway in Fanconi anemia complementation group F and D1 cells. *Exp. Hematol.* 29: 1448-1455.
5. Otsuki, T., Nagashima, T., Komatsu, N., Kirito, K., Furukawa, Y., Kobayashi Si, S., Liu, J.M. and Ozawa, K. 2002. Phosphorylation of Fanconi anemia protein, FANCA, is regulated by Akt kinase. *Biochem. Biophys. Res. Commun.* 291: 628-634.

CHROMOSOMAL LOCATION

Genetic locus: FANCM (human) mapping to 14q21.2; Fancm (mouse) mapping to 12 C1.

SOURCE

FANCM (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of FANCM 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-70277 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FANCM (N-15) is recommended for detection of FANCM of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

FANCM (N-15) is also recommended for detection of FANCM in additional species, including canine.

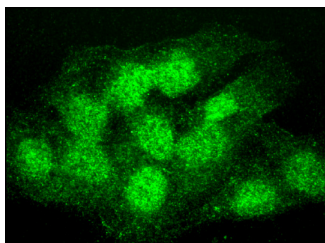
Suitable for use as control antibody for FANCM siRNA (h): sc-77313, FANCM siRNA (m): sc-77314, FANCM shRNA Plasmid (h): sc-77313-SH, FANCM shRNA Plasmid (m): sc-77314-SH, FANCM shRNA (h) Lentiviral Particles: sc-77313-V and FANCM shRNA (m) Lentiviral Particles: sc-77314-V.

Molecular Weight of FANCM: 250 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) 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.

DATA



FANCM (N-15): sc-70277. Immunofluorescence staining of formalin-fixed HepG2 cells showing nuclear and cytoplasmic localization.

STORAGE

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