SANTA CRUZ BIOTECHNOLOGY, INC.

FANCC (P-17): sc-23777

SANTA CRUZ BIOTECHNOLOGY
The Power to Question

BACKGROUND

Fanconi anemia (FA) is an autosomal recessive disorder characterized by bone marrow failure, birth defects and chromsomal instability. The FA Group C complementation group gene encodes the protein FANCC, which is located in both cytoplasmic and nuclear compartments. FANCC is expressed in a cell cycle-dependent manner, with the lowest levels at the G_1/S boundary and the highest levels in the M-phase. The FANCC protein interacts with other FA complementation group proteins as well as non-FA proteins. A 230 kDa human α spectrin II acts as a scaffold to enhance interactions between FANCC and FANCA to form a nuclear complex. Another binding partner of FANCC is the BTB/POZ domain containing protein FAZF, which is a transcriptional repressor. In hematopoietic cells expressing mutant FANCC, PKR is constitutively phosphorylated and has increased binding affinity for double-stranded RNA, which suggests that FANCC indirectly suppresses the activity of PKR. These cells are apoptotic and are hypersensitive to IFN-γ and TNFα. In addition, FANCC protein is involved in the activation of Stat1 through receptors for at least three hematopoietic growth and survival factors.

REFERENCES

1. McMahon, L.W., et al. 1999. Human α spectrin II and the Fanconi anemia proteins FANCA and FANCC interact to form a nuclear complex. J. Biol. Chem. 274: 32904-32908.
2. Hoatlin, M.E., et al. 1999. A novel BTB/POZ transcriptional repressor protein interacts with the Fanconi anemia group C protein and PLZF. Blood 94: 3737-3747.
3. Kruyt, F.A., et al. 1999. Resistance to mitomycin C requires interaction between the Fanconi anemia proteins FANCA and FANCG in the nucleus through an arginine-rich domain. J. Biol. Chem. 274: 34212-34218.
4. Kupfer, G., et al. 1999. A patient-derived mutant form of the Fanconi anemia protein, FANCA, is defective in nuclear accumulation. Exp. Hematol. 27: 587-593.

CHROMOSOMAL LOCATION

Genetic locus: FANCC (human) mapping to 9q22.32; Fancc (mouse) mapping to 13 B3.

SOURCE

FANCC (P-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of FANCC of mouse origin.

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-23777 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

FANCC (P-17) is recommended for detection of FANCC of mouse, rat and, to a lesser extent, 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).

Suitable for use as control antibody for FANCC siRNA (h): sc-35354, FANCC siRNA (m): sc-35355, FANCC shRNA Plasmid (h): sc-35354-SH, FANCC shRNA Plasmid (m): sc-35355-SH, FANCC shRNA (h) Lentiviral Particles: sc-35354-V and FANCC shRNA (m) Lentiviral Particles: sc-35355-V.

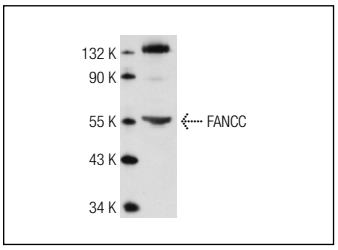
Molecular Weight of FANCC: 60 kDa.

Positive Controls: Jurkat nuclear extract: sc-2132, HeLa whole cell lysate: sc-2200 or K-562 nuclear extract: sc-2130.

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



FANCC (P-17): sc-23777. Western blot analysis of FANCC expression in Jurkat nuclear extract.

SELECT PRODUCT CITATIONS

1. Brodeur, I., et al. 2004. Regulation of the Fanconi anemia group C protein through proteolytic modification. J. Biol. Chem. 279: 4713-4720.

RESEARCH USE

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