

FANCC (H-300): sc-28216

BACKGROUND

Fanconi anemia (FA) is an autosomal recessive disorder characterized by bone marrow failure, birth defects and chromosomal 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 G1/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 TNF α . 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 alpha 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 FANCC 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.
5. Pang, Q., et al. 2000. The Fanconi anemia protein FANCC binds to and facilitates the activation of STAT1 by gamma interferon and hematopoietic growth factors. *Mol. Cell. Biol.* 20: 4724-4735.
6. Fagerlie, S.R., et al. 2001. Functional correction of FA-C cells with FANCC suppresses the expression of interferon gamma-inducible genes. *Blood* 97: 3017-3024.

SOURCE

FANCC (H-300) is a rabbit polyclonal antibody raised against amino acids 259-558 mapping at the C-terminus of FANCC of human origin.

PRODUCT

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

STORAGE

Store at 4 $^{\circ}$ C, **DO NOT FREEZE**. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

APPLICATIONS

FANCC (H-300) is recommended for detection of FANCC of human and, to a lesser extent, mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g 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 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.

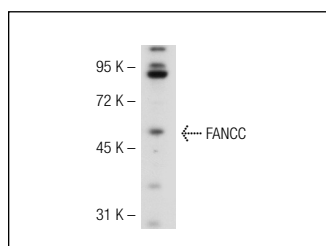
Molecular Weight of FANCC: 60 kDa.

Positive Controls: K-562 nuclear extract: sc-2130, MOLT-4 nuclear extract: sc-2151 or HeLa whole cell lysate: sc-2200.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker[™] compatible goat anti-rabbit IgG-HRP: sc-2030 (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 goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz[™] Mounting Medium: sc-24941.

DATA



FANCC (H-300): sc-28216. Western blot analysis of FANCC expression in HeLa whole cell lysate.

RESEARCH USE

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

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Try **FANCC (6E7): sc-293308**, our highly recommended monoclonal alternative to FANCC (H-300).