

FANCI (H-102): sc-98532

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. FANCI (fanconi anemia, complementation group I), also known as KIAA1794, is a 1,328 amino acid protein that localizes to the nucleus and is subject to monoubiquitination and DNA damage-dependent phosphorylation. Interacting directly with FANCD2, FANCI is required for the maintenance of chromosomal stability and is also involved in DNA recombination and repair in response to double-strand breaks and DNA cross-links. Defects in the gene encoding FANCI are associated with the pathogenesis of FA. FANCI is expressed as four alternatively spliced isoforms and is encoded by a gene that maps to human chromosome 15.

REFERENCES

1. Nagase, T., et al. 2001. Prediction of the coding sequences of unidentified human genes. XX. The complete sequences of 100 new cDNA clones from brain which code for large proteins *in vitro*. DNA Res. 8: 85-95.
2. Smogorzewska, A., et al. 2007. Identification of the FANCI protein, a monoubiquitinated FANCD2 paralog required for DNA repair. Cell 129: 289-301.
3. Dorsman, J.C., et al. 2007. Identification of the fanconi anemia complementation group I gene, FANCI. Cell. Oncol. 29: 211-218.
4. Sims, A.E., et al. 2007. FANCI is a second monoubiquitinated member of the fanconi anemia pathway. Nat. Struct. Mol. Biol. 14: 564-567.
5. Online Mendelian Inheritance in Man, OMIM™. 2007. Johns Hopkins University, Baltimore, MD. MIM Number: 611360. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Alpi, A.F., et al. 2008. Mechanistic insight into site-restricted monoubiquitination of FANCD2 by UBE2t, FANCL, and FANCI. Mol. Cell 32: 767-777.
7. Ishiai, M., et al. 2008. FANCI phosphorylation functions as a molecular switch to turn on the fanconi anemia pathway. Nat. Struct. Mol. Biol. 15: 1138-1146.

CHROMOSOMAL LOCATION

Genetic locus: FANCI (human) mapping to 15q26.1; Fanci (mouse) mapping to 7 D3.

SOURCE

FANCI (H-102) is a rabbit polyclonal antibody raised against amino acids 1002-1103 mapping near the C-terminus of FANCI of human origin.

PRODUCT

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

STORAGE

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

APPLICATIONS

FANCI (H-102) is recommended for detection of FANCI of mouse, rat and 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).

FANCI (H-102) is also recommended for detection of FANCI in additional species, including equine, canine and porcine.

Suitable for use as control antibody for FANCI siRNA (h): sc-90074, FANCI siRNA (m): sc-105350, FANCI shRNA Plasmid (h): sc-90074-SH, FANCI shRNA Plasmid (m): sc-105350-SH, FANCI shRNA (h) Lentiviral Particles: sc-90074-V and FANCI shRNA (m) Lentiviral Particles: sc-105350-V.

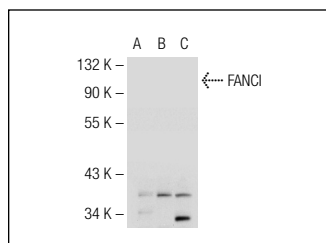
Molecular Weight of FANCI: 150 kDa.

Positive Controls: FANCI (m2): 293T Lysate: sc-126833 or HeLa whole cell lysate: sc-2200.

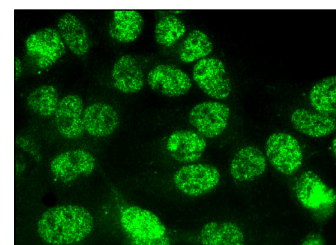
RECOMMENDED SECONDARY REAGENTS

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



FANCI (H-102): sc-98532. Western blot analysis of FANCI expression in non-transfected 293T: sc-117752 (A), mouse FANCI transfected 293T: sc-126833 (B) and HeLa (C) whole cell lysates.



FANCI (H-102): sc-98532. Immunofluorescence staining of formalin-fixed Hep G2 cells showing nuclear localization.

SELECT PRODUCT CITATIONS

1. Karakasilioti, I., et al. 2013. DNA damage triggers a chronic autoinflammatory response, leading to fat depletion in NER progeria. Cell Metab. 18: 403-415.

RESEARCH USE

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