

# FANCG (H-300): sc-28219

## 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. The cellular accumulation of FA proteins, including FANCA and FANCG, is subject to regulation by TNF $\alpha$  signaling. Phosphorylation of FANCG (Fanconi anemia complementation group) proteins is thought to be important for the function of the FA pathway. Phosphorylation of Serine 7 in FANCG is functionally important in the FA pathway. FANCG is localized majorly in the nucleus and minorly in the cytoplasm, and is highly expressed in testis and thymus.

## 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. Garcia-Higuera, I., et al. 2000. The Fanconi anemia proteins FANCA and FANCG stabilize each other and promote the nuclear accumulation of the Fanconi anemia complex. *Blood* 96: 3224-3230.
3. Yagasaki, H., et al. 2001. A cytoplasmic serine protein kinase binds and may regulate the Fanconi anemia protein FANCA. *Blood* 98: 650-3657.
4. Futaki, M., et al. 2001. Fanconi anemia protein, FANCG, is a phosphoprotein and is upregulated with FANCA after TNF $\alpha$  treatment. *Biochem. Biophys. Res. Commun.* 281: 347-351.
5. Otsuki, T., et al. 2002. Phosphorylation of Fanconi anemia protein, FANCA, is regulated by Akt kinase. *Biochem. Biophys. Res. Commun.* 291: 628-634.
6. Qiao, F., et al. 2004. Phosphorylation of Fanconi anemia (FA) complementation group G protein, FANCG, at Serine 7 is important for function of the FA pathway. *J. Biol. Chem.* 279: 46035-46045.
7. Swiss-Prot/TrEMBL (6136453). World Wide Web URL: <http://www.expasy.ch/sprot/sprot-top.html>

## CHROMOSOMAL LOCATION

Genetic locus: FANCG (human) mapping to 9p13.3; Fancg (mouse) mapping to 4 A5.

## SOURCE

FANCG (H-300) is a rabbit polyclonal antibody raised against amino acids 323-622 mapping at the C-terminus of FANCG of human origin.

## PRODUCT

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

## RESEARCH USE

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

## APPLICATIONS

FANCG (H-300) is recommended for detection of FANCG of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ 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 FANCG siRNA (h): sc-92893, FANCG siRNA (m): sc-145065, FANCG shRNA Plasmid (h): sc-92893-SH, FANCG shRNA Plasmid (m): sc-145065-SH, FANCG shRNA (h) Lentiviral Particles: sc-92893-V and FANCG shRNA (m) Lentiviral Particles: sc-145065-V.

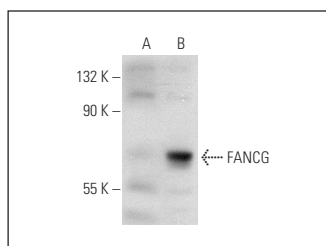
Molecular Weight of FANCG: 68 kDa.

Positive Controls: FANCG (h2): 293T Lysate: sc-170908 or HeLa nuclear extract: sc-2120.

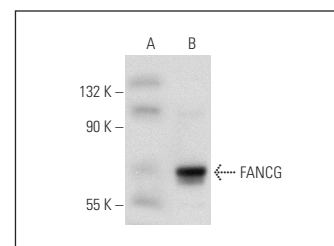
## RECOMMENDED SECONDARY REAGENTS

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



FANCG (H-300): sc-28219. Western blot analysis of FANCG expression in non-transfected: sc-117752 (A) and human FANCG transfected: sc-170908 (B) 293T whole cell lysates.



FANCG (H-300): sc-28219. Western blot analysis of FANCG expression in non-transfected: sc-117752 (A) and human FANCG transfected: sc-170176 (B) 293T whole cell lysates.

## STORAGE

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

**MONOS**  
Satisfaction  
Guaranteed

Try **FANCG (F-8): sc-393382** or **FANCG (75-A): sc-100740**, our highly recommended monoclonal alternatives to FANCG (H-300).