

FANCE (L-21): sc-23585

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. Phosphorylation of FANCF (fanconi anemia complementation group) proteins is thought to be important for the function of the FA pathway. FA proteins encoded by six cloned FA genes (FANCA, FANCC, FANCD2, FANCE, FANCF, and FANCG) cooperate in a common pathway, culminating in the monoubiquitination of FANCD2 protein and the colocalization of FANCD2 and BRCA1 proteins in nuclear foci. The human FANCE gene maps to chromosome 6p21.31, contains 10 exons and encodes a novel 536 amino acid protein with 2 potential nuclear localization signals.

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. Yagasaki, H., et al. 2001. A cytoplasmic serine protein kinase binds and may regulate the Fanconi anemia protein FANCA. *Blood* 98: 3650-3657.
3. Wilson, J.B., et al. 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., et al. 2001. Function of the Fanconi anemia pathway in Fanconi anemia complementation group F and D1 cells. *Exp. Hematol.* 29: 1448-1455.
5. Online Mendelian Inheritance in Man, OMIM[™]. 2001. Johns Hopkins University, Baltimore, MD. MIM Number: 603467. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
6. Taniguchi, T., et al. 2002. Molecular pathogenesis of fanconi anemia. *Int. J. Hematol.* 75: 123-128.
7. Otsuki, T., et al. 2002. Phosphorylation of Fanconi anemia protein, FANCA, is regulated by Akt kinase. *Biochem. Biophys. Res. Comm.* 291: 628-634.

CHROMOSOMAL LOCATION

Genetic locus: FANCE (human) mapping to 6p21.31.

SOURCE

FANCE (L-21) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of FANCE of human origin.

STORAGE

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

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-23585 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FANCE (L-21) is recommended for detection of FANCE of 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).

FANCE (L-21) is also recommended for detection of FANCE in additional species, including equine.

Suitable for use as control antibody for FANCE siRNA (h): sc-40569, FANCE shRNA Plasmid (h): sc-40569-SH and FANCE shRNA (h) Lentiviral Particles: sc-40569-V.

Molecular Weight of FANCE: 59 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

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.

SELECT PRODUCT CITATIONS

1. Gordon, S., et al. 2005. FANCC, FANCE, and FANCD2 form a ternary complex essential to the integrity of the Fanconi anemia DNA damage response pathway. *J. Biol. Chem.* 280: 36118-36125.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.

MONOS
Satisfaction
Guaranteed

Try **FANCE (B-1): sc-398558** or **FANCE (2346C5a): sc-130638**, our highly recommended monoclonal alternatives to FANCE (L-21).