SANTA CRUZ BIOTECHNOLOGY, INC.

FANCL (B-11): sc-137067

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Defects in FANCL are a cause of Fanconi anemia. 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 have been identified and six FA genes (for subtypes A, C, D2, E, F and G) have been cloned. Phosphorylation of FANC (Fanconi anemia complementation group) proteins is thought to be important for the function of the FA pathway. FA proteins cooperate in a common pathway, culminating in the monoubiquitination of FANCD2 protein and colocalization of FANCD2 and BRCA1 proteins in nuclear foci. FANCL is a ligase protein mediating the ubiquitination of FANCD2, a key step in the DNA damage pathway. FANCL may be required for proper primordial germ cell proliferation in the embryonic stage.

CHROMOSOMAL LOCATION

Genetic locus: FANCL (human) mapping to 2p16.1; Fancl (mouse) mapping to 11 A3.3.

SOURCE

FANCL (B-11) is a mouse monoclonal antibody raised against amino acids 76-375 mapping at the C-terminus of FANCL of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FANCL (B-11) is available conjugated to agarose (sc-137067 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-137067 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-137067 PE), fluorescein (sc-137067 FITC), Alexa Fluor® 488 (sc-137067 AF488), Alexa Fluor® 546 (sc-137067 AF546), Alexa Fluor® 594 (sc-137067 AF594) or Alexa Fluor® 647 (sc-137067 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-137067 AF680) or Alexa Fluor® 790 (sc-137067 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

FANCL (B-11) is recommended for detection of FANCL of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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), immunohistochemistry (including paraffin-embedded sections) (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 FANCL siRNA (h): sc-45661, FANCL siRNA (m): sc-45662, FANCL shRNA Plasmid (h): sc-45661-SH, FANCL shRNA Plasmid (m): sc-45662-SH, FANCL shRNA (h) Lentiviral Particles: sc-45661-V and FANCL shRNA (m) Lentiviral Particles: sc-45662-V.

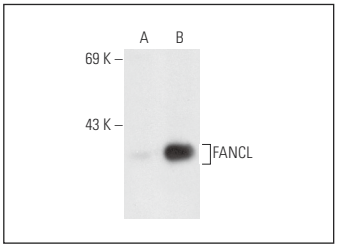
Molecular Weight of FANCL: 43 kDa.

Positive Controls: FANCL (h): 293T Lysate: sc-116313 or Hep G2 cell lysate: sc-2227.

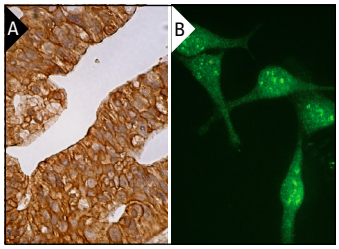
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 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 m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgGκ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



FANCL (B-11): sc-137067. Western blot analysis of FANCL expression in non-transfected: sc-117752 (**A**) and human FANCL transfected: sc-116313 (**B**) 293T whole cell lysates.



FANCL (B-11): sc-137067. Immunoperoxidase staining of formalin fixed, paraffin-embedded human gall bladder tissue showing cytoplasmic and membrane staining of glandular cells (**A**). Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing nuclear and cytoplasmic localization (**B**).

SELECT PRODUCT CITATIONS

1. Dao, K.H., et al. 2012. FANCL ubiquitinates β-catenin and enhances its nuclear function. Blood 120: 323-334.
2. Dao, K.H., et al. 2013. The PI3K/Akt1 pathway enhances steady-state levels of FANCL. Mol. Biol. Cell 24: 2582-2592.
3. Vohhodina, J., et al. 2017. The RNA processing factors THRAP3 and BCLAF1 promote the DNA damage response through selective mRNA splicing and nuclear export. Nucleic Acids Res. 45: 12816-12833.
4. Kalev, P., et al. 2021. MAT2A inhibition blocks the growth of MTAP-deleted cancer cells by reducing PRMT5-dependent mRNA splicing and inducing DNA damage. Cancer Cell 39: 209-224.e11.
5. Munkhjargal, A., et al. 2021. Promyelocytic leukemia proteins regulate Fanconi anemia gene expression. Int. J. Mol. Sci. 22: 7782.

STORAGE

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

RESEARCH USE

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