

# FANCM (M40-P2C6): sc-101389

## 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. The thirteen FA proteins that have been characterized are important for regulating chromosomal stability and genome surveillance. Eight of these proteins, namely FANCA, FANCB, FANCC, FANCE, FANCF, FANCG, FANCL and FANCM, comprise the FA core complex, which catalyzes a key reaction in DNA repair: the monoubiquitination of FANCD2. FANCM (Fanconi anemia, complementation group M) is a member of the DEAD-box helicase family of proteins and contains a DEAH helicase domain and a nuclease domain. Localizing to chromatin fractions, FANCM is phosphorylated in a cell cycle-dependent manner and is believed to function as an anchor, recruiting the FA core complex to chromatin. Mutations in the gene encoding FANCM can lead to Fanconi anemia.

## 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.

## CHROMOSOMAL LOCATION

Genetic locus: FANCM (human) mapping to 14q21.2.

## SOURCE

FANCM (M40-P2C6) is a mouse monoclonal antibody raised against a synthetic peptide corresponding to amino acids 2034-2043 of FANCM of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>1</sub> kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FANCM (M40-P2C6) is available conjugated to agarose (sc-101389 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-101389 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-101389 PE), fluorescein (sc-101389 FITC), Alexa Fluor<sup>®</sup> 488 (sc-101389 AF488), Alexa Fluor<sup>®</sup> 546 (sc-101389 AF546), Alexa Fluor<sup>®</sup> 594 (sc-101389 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-101389 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-101389 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-101389 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

## RESEARCH USE

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

## APPLICATIONS

FANCM (M40-P2C6) is recommended for detection of FANCM of 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).

Suitable for use as control antibody for FANCM siRNA (h): sc-77313, FANCM shRNA Plasmid (h): sc-77313-SH and FANCM shRNA (h) Lentiviral Particles: sc-77313-V.

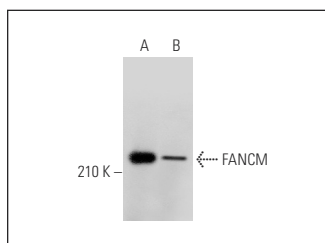
Molecular Weight of FANCM: 250 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136 or HeLa whole cell lysate: sc-2200.

## 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<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> 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<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

## DATA



FANCM (M40-P2C6): sc-101389. Western blot analysis of FANCM expression in HEK293 (A) and HeLa (B) whole cell lysates.

## SELECT PRODUCT CITATIONS

1. Nath, S., et al. 2017. FANCI helicase controls the balance between short- and long-tract gene conversions between sister chromatids. *Nucleic Acids Res.* 45: 8886-8900.
2. Zhang, Y., et al. 2022. And-1 coordinates with the FANCM complex to regulate fanconi anemia signaling and cisplatin resistance. *Cancer Res.* 82: 3249-3262.

## STORAGE

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

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