

FOXM1 (G-5): sc-376471



The Power to Question

BACKGROUND

The Fox family of transcription factors is a large group of proteins that share a common DNA binding domain termed a winged-helix or forkhead domain. FOXM1, also known as FKHL16, MPP2 or Trident, is primarily expressed in proliferating cells. The gene encoding human FOXM1 maps to chromosome 12p13.33. The transcription element that restricts FOXM1 expression to proliferating cells is located 300 bp upstream of the start codon. FOXM1 is most abundant in thymus, testis, small intestine and colon. Alternative splicing generates FOXM1A and FOXM1B isoforms that contain PEST regions involved in rapid protein degradation. A decrease in FOXM1 expression is associated with age-related defects in cellular proliferation. Conversely, an increase in FOXM1B expression in the livers of older transgenic mice restore hepatocyte DNA replication rates to the higher rate present in young livers. FOXM1B activates the transcription of cyclin B1, cyclin D1 and Cdc25B.

REFERENCES

- Ye, H., et al. 1997. Hepatocyte nuclear factor 3/fork head homolog 11 is expressed in proliferating epithelial and mesenchymal cells of embryonic and adult tissues. *Mol. Cell. Biol.* 17: 1626-1641.
- Korver, W., et al. 1997. The human TRIDENT/HFH-11/FKHL16 gene: structure, localization, and promoter characterization. *Genomics* 46: 435-442.

CHROMOSOMAL LOCATION

Genetic locus: FOXM1 (human) mapping to 12p13.33; Foxm1 (mouse) mapping to 6 F3.

SOURCE

FOXM1 (G-5) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 734-763 at the C-terminus of FOXM1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-376471 X, 200 µg/0.1 ml.

FOXM1 (G-5) is available conjugated to agarose (sc-376471 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-376471 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-376471 PE), fluorescein (sc-376471 FITC), Alexa Fluor® 488 (sc-376471 AF488), Alexa Fluor® 546 (sc-376471 AF546), Alexa Fluor® 594 (sc-376471 AF594) or Alexa Fluor® 647 (sc-376471 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-376471 AF680) or Alexa Fluor® 790 (sc-376471 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-376471 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

Alexa Fluor® is a trademark of Molecular Probes, Inc., Oregon, USA

STORAGE

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

APPLICATIONS

FOXM1 (G-5) is recommended for detection of all isoforms of FOXM1 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 FOXM1 siRNA (h): sc-43769, FOXM1 siRNA (m): sc-44877, FOXM1 shRNA Plasmid (h): sc-43769-SH, FOXM1 shRNA Plasmid (m): sc-44877-SH, FOXM1 shRNA (h) Lentiviral Particles: sc-43769-V and FOXM1 shRNA (m) Lentiviral Particles: sc-44877-V.

FOXM1 (G-5) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

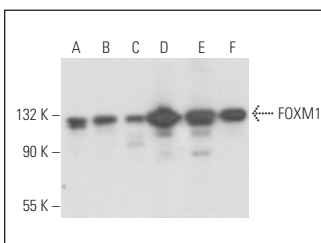
Molecular Weight (predicted) of FOXM1A isoform: 89 kDa.

Molecular Weight (predicted) of FOXM1B/FOXM1C isoforms: 83/84 kDa.

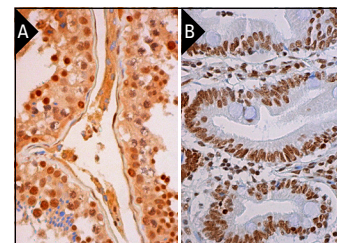
Molecular Weight (observed) of FOXM1: 104-122 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, NIH/3T3 whole cell lysate: sc-2210 or U-2 OS cell lysate: sc-2295.

DATA



FOXM1 (G-5): sc-376471. Western blot analysis of FOXM1 expression in PC-12 (A), NIH/3T3 (B), U-2 OS (C), Caco-2 (D), F9 (E) and MCF7 (F) whole cell lysates.



FOXM1 (G-5): sc-376471. Immunoperoxidase staining of formalin fixed, paraffin-embedded human testis tissue showing nuclear and cytoplasmic staining of cells in seminiferous ducts and Leydig cells (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing nuclear staining of glandular cells (B).

SELECT PRODUCT CITATIONS

- Vallejo, A., et al. 2017. An integrative approach unveils FOSL1 as an oncogene vulnerability in KRAS-driven lung and pancreatic cancer. *Nat. Commun.* 8: 14294.
- Zhang, W., et al. 2022. Thiostrepton induces ferroptosis in pancreatic cancer cells through STAT3/GPX4 signalling. *Cell Death Dis.* 13: 630.
- Nandi, I., et al. 2023. Coordinated activation of c-Src and FOXM1 drives tumor cell proliferation and breast cancer progression. *J. Clin. Invest.* 133: e162324.

RESEARCH USE

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