

# FOXM1 (E-8): sc-376620

## 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

1. Ye, H., et al. 1997. Hepatocyte nuclear factor 3/forkhead homolog 11 is expressed in proliferating epithelial and mesenchymal cells of embryonic and adult tissues. *Mol. Cell. Biol.* 17: 1626-1641.
2. Korver, W., et al. 1997. The human Trident/HFH-11/FKHL16 gene: structure, localization and promoter characterization. *Genomics* 46: 435-442.
3. Yao, K.M., et al. 1997. Molecular analysis of a novel winged-helix protein, WIN. Expression pattern, DNA binding property and alternative splicing within the DNA binding domain. *J. Biol. Chem.* 272: 19827-19836.
4. Ly, D.H., et al. 2000. Mitotic misregulation and human aging. *Science* 287: 2486-2492.
5. Wang, X., et al. 2001. Increased levels of forkhead box M1B transcription factor in transgenic mouse hepatocytes prevent age-related proliferation defects in regenerating liver. *Proc. Natl. Acad. Sci. USA* 98: 11468-11473.

## CHROMOSOMAL LOCATION

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

## SOURCE

FOXM1 (E-8) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 735-763 at the C-terminus of FOXM1 of human origin.

## PRODUCT

Each vial contains 200 µg IgG<sub>2a</sub> 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-376620 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-376620 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

## STORAGE

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

## APPLICATIONS

FOXM1 (E-8) 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) 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 (E-8) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of FOXM1A/B/C isoforms: 89/83/84 kDa.

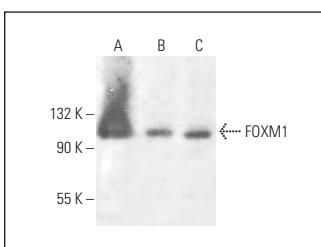
Molecular Weight (observed) of FOXM1: 104-122 kDa.

Positive Controls: MCF7 whole cell lysate: sc-2206, ARPE-19 whole cell lysate: sc-364357 or HeLa whole cell lysate: sc-2200.

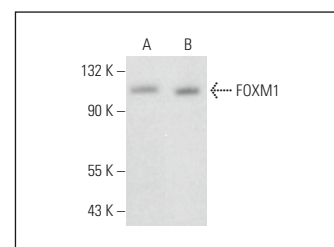
## RECOMMENDED SUPPORT REAGENTS

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™ 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.

## DATA



FOXM1 (E-8): sc-376620. Western blot analysis of FOXM1 expression in MCF7 (A), 3T3-L1 (B) and ARPE-19 (C) whole cell lysates.



FOXM1 (E-8): sc-376620. Western blot analysis of FOXM1 expression in HeLa (A) and C3H/10T1/2 (B) whole cell lysates. Detection reagent used: m-IgGκ BP-HRP: sc-516102.

## RESEARCH USE

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



See **FOXM1 (G-5): sc-376471** for FOXM1 antibody conjugates, including AC, HRP, FITC, PE, and Alexa Fluor® 488, 546, 594, 647, 680 and 790.