SANTA CRUZ BIOTECHNOLOGY, INC.

FOXM1 (H-19): sc-501

SANTA CRUZ BIOTECHNOLOGY

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 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.

CHROMOSOMAL LOCATION

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

SOURCE

FOXM1 (H-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping DNA binding domain of FOXM1 of human origin.

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-501 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-501 X, 200 µg/0.1 ml.

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.

APPLICATIONS

FOXM1 (H-19) is recommended for detection of all isoforms of FOXM1 of mouse, rat and 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), 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); may cross-react with a broad range of Forkhead related transcription factors.

FOXM1 (H-19) is also recommended for detection of all isoforms of FOXM1 in additional species, including equine, canine, bovine, porcine and avian.

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 (H-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

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

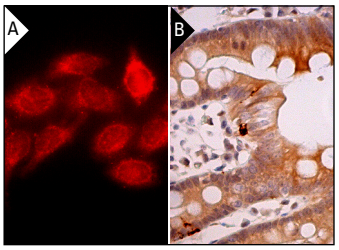
Molecular Weight (predicted) of FOXM1B isoform: 83 kDa.

Molecular Weight (predicted) of FOXM1C isoform: 84 kDa.

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

Positive Controls: NIH/3T3 whole cell lysate: sc-2210.

DATA



FOXM1 (H-19): sc-501. Immunofluorescence staining of methanol-fixed HeLa cells showing nuclear and cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human small intestine tissue showing cytoplasmic and nuclear staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Wataya-Kaneda, M., et al. 2001. Cells derived from tuberous sclerosis show a prolonged S phase of the cell cycle and increased apoptosis. Arch. Dermatol. Res. 293: 460-469.