SANTA CRUZ BIOTECHNOLOGY, INC.

FOXK1 (N-12): sc-47594

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The Power to Question

BACKGROUND

The FOX family of transcription factors share a common DIUA binding domain termed a winged-helix or forkhead domain. Many FOX proteins play important roles in development, metabolism, cancer and aging. In skeletal muscles, undifferentiated myogenic stem cells (satellite cells) can mobilize to regenerate myofibers in response to injury. FOXK1 is expressed in these cells and regulates cell cycle progression through an interaction with its downstream target, the cyclin-dependent kinase inhibitor p21 (CIP). Loss of FOXK1 in mice results in growth retardation and a severe impairment in skeletal muscle regeneration following injury. FOXK1 also shows expression in immature tissues of brain, eye, heart, lung and thymus. It also is predominantly expressed in many malignant tissues, such as tumors of the brain, colon and lymph node.

REFERENCES

1. Garry, D.J., et al. 1997. Persistent expression of MNF identifies myogenic stem cells in postnatal muscles. Dev. Biol. 188: 280-294.
2. Yang, Q., et al. 1997. Transient expression of a winged-helix protein, MNF-β, during myogenesis. Mol. Cell. Biol. 17: 5236-5243.
3. Yang, Q., et al. 2000. The winged-helix/forkhead protein myocyte nuclear factor β (MNF-β) forms a co-repressor complex with mammalian sin3B. Biochem. J. 345: 335-343.
4. Zhang, Q., et al. 2002. The gene for the muted (mu) mouse, a model for Hermansky-Pudlak syndrome, defines a novel protein which regulates vesicle trafficking. Hum. Mol. Genet. 11: 697-706.
5. Hawke, T.J., et al. 2003. Absence of p21 CIP rescues myogenic progenitor cell proliferative and regenerative capacity in FOXK1 null mice. J. Biol. Chem. 278: 4015-4020.
6. Huang, J.T. and Lee, V. 2004. Identification and characterization of a novel human FOXK1 gene in silico. Int. J. Oncol. 25: 751-757.

CHROMOSOMAL LOCATION

Genetic locus: FOXK1 (human) mapping to 7p22.1; Foxk1 (mouse) mapping to 5 G2.

SOURCE

FOXK1 (N-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of FOXK1 of mouse origin.

PRODUCT

Each vial contains 200 µg IgG 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-47594 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-47594 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

FOXK1 (N-12) is recommended for detection of Forkhead box protein K1 of mouse 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FOXK1 siRNA (h): sc-60657 and FOXK1 siRNA (m): sc-60658; and as shRNA Plasmid control antibody for FOXK1 shRNA Plasmid (h): sc-60657-SH and FOXK1 shRNA Plasmid (m): sc-60658-SH.

FOXK1 (N-12) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

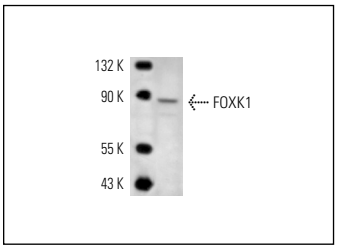
Molecular Weight of FOXK1: 90 kDa.

Positive Controls: A-673 nuclear extract: sc-2128, Sol8 cell lysate: sc-2249 or NIH/3T3 nuclear extract: sc-2138.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 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 donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

DATA



FOXK1 (N-12): sc-47594. Western blot analysis of FOXK1 expression in A-673 nuclear extract.

RESEARCH USE

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