SANTA CRUZ BIOTECHNOLOGY, INC.

FOXC2 (N-20): sc-21397

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

FOXC2 is a member of forkhead/winged helix transcription factor family, whose members serve as key regulators in embryogenesis and cell differentiation. FOXC2 functions as a key regulator of adipocyte metabolism by increasing the sensitivity of the β-adrenergic-cAMP-protein kinase A (PKA) signaling pathway through alteration of adipocyte PKA holoenzyme composition. Increased FOXC2 levels, induced by high fat diet, seem to counteract most of the symptoms associated with obesity. FOXC2 expression is also associated with the early stage of chondrogenic differentiation both *in vivo* and *in vitro*. FOXC2 haploinsufficiency results in Lymphedema-distichiasis (LD), an autosomal dominant disorder that classically presents as lymphedema of the limbs, and double rows of eyelashes (distichiasis). Mutant mice null for FOXC2 show defects in axial and cranial skeletogenesis, suggesting a requirement of FOXC2 for skeletal tissue development. FOXC2 interacts with FOXC1 in the Notch signaling pathway and in kidney and heart development.

REFERENCES

1. Kume, T., Deng, K. and Hogan, B.L. 2000. Murine forkhead/winged helix genes FOXC1 (Mf1) and FOXC2 (Mfh1) are required for the early organogenesis of the kidney and urinary tract. Development 127: 1387-1395.
2. Fang, J., Dagenais, S.L., Erickson, R.P., Arlt, M.F., Glynn, M.W., Gorski, J.L., Seaver, L.H. and Glover, T.W. 2000. Mutations in FOXC2 (Mfh-1), a forkhead family transcription factor, are responsible for the hereditary lymphedema-distichiasis syndrome. Am. J. Hum. Genet. 67: 1382-1388.
3. Kume, T., Jiang, H., Topczewska, J.M. and Hogan, B.L. 2001. The murine winged helix transcription factors, FOXC1 and FOXC2, are both required for cardiovascular development and somitogenesis. Genes Dev. 15: 2470-2482.
4. Nifuji, A., Miura, N., Kato, N., Kellermann, O. and Noda, M. 2001. Bone morphogenetic protein regulation of forkhead/winged helix transcription factor FOXC2 (Mfh1) in a murine mesodermal cell line C1 and in skeletal precursor cells. J. Bone Miner. Res. 16: 1765-1771.
5. Cederberg, A., Gronning, L.M., Ahren, B., Tasken, K., Carlsson, P. and Enerback, S. 2001. FOXC2 is a winged helix gene that counteracts obesity, hypertriglyceridemia, and diet-induced Insulin resistance. Cell 106: 563-573.

CHROMOSOMAL LOCATION

Genetic locus: FOXC2 (human) mapping to 16q24.1; Foxc2 (mouse) mapping to 8 E1.

SOURCE

FOXC2 (N-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of FOXC2 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-21397 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FOXC2 (N-20) is recommended for detection of FOXC2 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

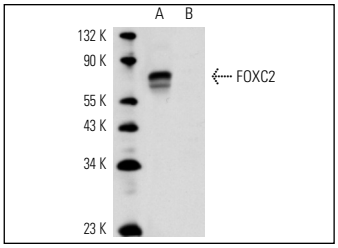
FOXC2 (N-20) is also recommended for detection of FOXC2 in additional species, including equine, canine, bovine and avian.

Suitable for use as control antibody for FOXC2 siRNA (h): sc-43767, FOXC2 siRNA (m): sc-45366, FOXC2 shRNA Plasmid (h): sc-43767-SH, FOXC2 shRNA Plasmid (m): sc-45366-SH, FOXC2 shRNA (h) Lentiviral Particles: sc-43767-V and FOXC2 shRNA (m) Lentiviral Particles: sc-45366-V.

Molecular Weight of FOXC2: 62 kDa.

Positive Controls: Jurkat whole cell lysate: sc-2204, NIH/3T3 whole cell lysate: sc-2210 or HeLa whole cell lysate: sc-2200.

DATA



FOXC2 (N-20): sc-21397. Western blot analysis of FOXC2 expression in lysate prepared from cells transduced with an adenovirus FOXC2 expression vector (**A**) and control cell lysate (**B**). Cells kindly provided by Dr. T.V. Petrova.

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.

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.