

FOXC2 (1D11C8): sc-517199

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., et al. 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., et al. 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., et al. 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., et al. 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., et al. 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.

SOURCE

FOXC2 (1D11C8) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 21-210 of FOXC2 of human origin.

PRODUCT

Each vial contains 100 μ g IgG₁ in 1.0 ml PBS with < 0.1% sodium azide and 0.1% gelatin.

STORAGE

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

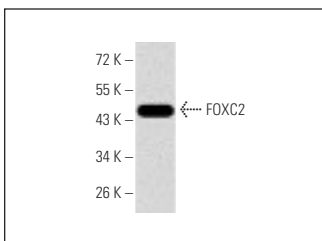
APPLICATIONS

FOXC2 (1D11C8) is recommended for detection of FOXC2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

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

Molecular Weight of FOXC2: 62 kDa.

DATA



FOXC2 (1D11C8): sc-517199. Western blot analysis of FOXC2 expression in human FOXC2 recombinant protein.

RESEARCH USE

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

PROTOCOLS

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