SANTA CRUZ BIOTECHNOLOGY, INC.

FOXC2 (G-7): sc-515234

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.

CHROMOSOMAL LOCATION

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

SOURCE

FOXC2 (G-7) is a mouse monoclonal antibody raised against amino acids 31-70 mapping near the N-terminus of FOXC2 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

FOXC2 (G-7) is available conjugated to agarose (sc-515234 AC), 500 µg/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-515234 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-515234 PE), fluorescein (sc-515234 FITC), Alexa Fluor® 488 (sc-515234 AF488), Alexa Fluor® 546 (sc-515234 AF546), Alexa Fluor® 594 (sc-515234 AF594) or Alexa Fluor® 647 (sc-515234 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-515234 AF680) or Alexa Fluor® 790 (sc-515234 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

APPLICATIONS

FOXC2 (G-7) is recommended for detection of FOXC2 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 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.

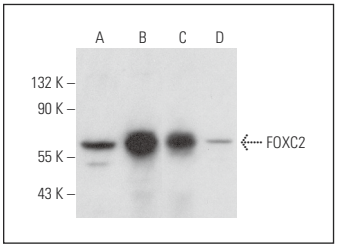
Molecular Weight of FOXC2: 62 kDa.

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

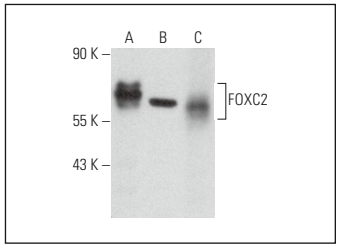
STORAGE

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

DATA



FOXC2 (G-7): sc-515234. Western blot analysis of FOXC2 expression in Jurkat (**A**), HeLa (**B**), NIH/3T3 (**C**) and HL-60 (**D**) whole cell lysates.



FOXC2 (G-7): sc-515234. Western blot analysis of FOXC2 expression in HeLa (**A**), Hep G2 (**B**) and C2C12 (**C**) whole cell lysates.

SELECT PRODUCT CITATIONS

1. Yang, Y., et al. 2019. VE-cadherin is required for lymphatic valve formation and maintenance. Cell Rep. 28: 2397-2412.e4.
2. Zeng, K., et al. 2020. LRIG3 represses cell motility by inhibiting slug via inactivating ERK signaling in human colorectal cancer. IUBMB Life 72: 1393-1403.
3. Liu, G., et al. 2021. E2F3 promotes liver cancer progression under the regulation of circ-PRKAR1B. Mol. Ther. Nucleic Acids 26: 104-113.
4. Czepielewski, R.S., et al. 2021. Ileitis-associated tertiary lymphoid organs arise at lymphatic valves and impede mesenteric lymph flow in response to tumor necrosis factor. Immunity 54: 2795-2811.e9.
5. Royer, C., et al. 2022. ASPP2 maintains the integrity of mechanically stressed pseudostratified epithelia during morphogenesis. Nat. Commun. 13: 941.
6. Ogunsina, O., et al. 2023. Pharmacological inhibition of FOXO1 promotes lymphatic valve growth in a congenital lymphedema mouse model. Front. Cell Dev. Biol. 10: 1024628.
7. Sun, L., et al. 2023. FOXC2-AS1/FOXC2 axis mediates matrix stiffness-induced *trans*-differentiation of hepatic stellate cells into fibrosis-promoting myofibroblasts. Int. J. Biol. Sci. 19: 4206-4222.
8. Wei, W., et al. 2024. Variants in FOXC1 and FOXC2 identified in patients with conotruncal heart defects. Genomics 116: 110840.

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.