

FOXD1 (C-19): sc-47585

BACKGROUND

The FOX family of transcription factors share a common DNA binding domain termed a winged-helix or forkhead domain. Many FOX proteins play important roles in development, metabolism, cancer and aging. FOXD1 (also designated brain factor 2 or BF-2) is involved in regulating inflammation as well as kidney and retinal development. FOXD1 regulates the activity of NFAT and NFκB. Deficiency of FOXD1 results in multiorgan systemic inflammation, exaggerated T cell-derived cytokine production and T cell proliferation in autologous MLRs. In kidneys, FOXD1 controls the production of signals required for the normal transition of induced mesenchyme into tubular epithelium and full growth and branching of the collecting system. Deletion of FOXD1 results in renal abnormalities. FOXD2 acts as a modulator of T cell activation.

REFERENCES

- Hatini, V., Huh, S.O., Herzlinger, D., Soares, V.C. and Lai, E. 1996. Essential role of stromal mesenchyme in kidney morphogenesis revealed by targeted disruption of winged helix transcription factor BF-2. *Genes Dev.* 10: 1467-1478.
- Dahle, M.K., Grønning, L.M., Cederberg, A., Blomhoff, H.K., Miura, N., Enerbäck, S., Taskén, K.A. and Taskén, K. 2002. Mechanisms of FOXC2- and FOXD1-mediated regulation of the R1α subunit of cAMP-dependent protein kinase include release of transcriptional repression and activation by protein kinase B α and cAMP. *J. Biol. Chem.* 277: 22902-22908.
- Zhang, H., Palmer, R., Gao, X., Kreidberg, J., Gerald, W., Hsiao, L., Jensen, R.V., Gullans, S.R. and Haber, D.A. 2003. Transcriptional activation of placental growth factor by the forkhead/winged helix transcription factor FOXD1. *Curr Biol.* 13: 1625-1629.
- Johansson, C.C., Dahle, M.K., Blomqvist, S.R., Grønning, L.M., Aandahl, E.M., Enerbäck, S. and Tasken, K. 2003. A winged helix forkhead (FOXD2) tunes sensitivity to cAMP in T lymphocytes through regulation of cAMP-dependent protein kinase R1α. *J. Biol. Chem.* 278: 17573-17579.
- Katoh, M. and Katoh, M. 2004. Human FOX gene family. *Int. J. Oncol.* 25: 1495-1500.
- Herrera, E., Marcus, R., Li, S., Williams, S.E., Erskine, L., Lai, E. and Mason, C. 2004. FOXD1 is required for proper formation of the optic chiasm. *Development* 131: 5727-5739.
- Levinson, R.S., Batourina, E., Choi, C., Vorontchikhina, M., Kitajewski, J. and Mendelsohn, C.L. 2005. FOXD1-dependent signals control cellularity in the renal capsule, a structure required for normal renal development. *Development* 132: 529-539.
- Jonsson, H. and Peng, S.L. 2005. Forkhead transcription factors in immunology. *Cell. Mol. Life Sci.* 62: 397-409.

CHROMOSOMAL LOCATION

Genetic locus: FOXD1 (human) mapping to 5q13.2; Foxd1 (mouse) mapping to 13 D1.

RESEARCH USE

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

SOURCE

FOXD1 (C-19) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the C-terminus of FOXD1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-47585 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-47585 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FOXD1 (C-19) is recommended for detection of FOXD1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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 FOXD1 siRNA (h): sc-60649, FOXD1 siRNA (m): sc-60650, FOXD1 shRNA Plasmid (h): sc-60649-SH, FOXD1 shRNA Plasmid (m): sc-60650-SH, FOXD1 shRNA (h) Lentiviral Particles: sc-60649-V and FOXD1 shRNA (m) Lentiviral Particles: sc-60650-V.

FOXD1 (C-19) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of FOXD1: 46 kDa.

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) 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.

STORAGE

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

PROTOCOLS

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



Try **FOXD1 (2C10): sc-293238**, our highly recommended monoclonal alternative to FOXD1 (C-19).