

FOXD1 (2C10): sc-293238

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 NF κ B. 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., Gronning, 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 R α 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., Gronning, L.M., Aandahl, E.M., Enerbäck, S. and Taskén, K. 2003. A winged helix forkhead (FOXD2) tunes sensitivity to cAMP in T lymphocytes through regulation of cAMP-dependent protein kinase R α . *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.
- Lin, L. and Peng, S.L. 2006. Coordination of NF κ B and NFAT antagonism by the forkhead transcription factor FOXD1. *J. Immunol.* 176: 4793-4803.

CHROMOSOMAL LOCATION

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

SOURCE

FOXD1 (2C10) is a mouse monoclonal antibody raised against amino acids 1-91 of FOXD1 of human origin.

PRODUCT

Each vial contains 100 μ g IgG_{2b} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FOXD1 (2C10) 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), 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 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.

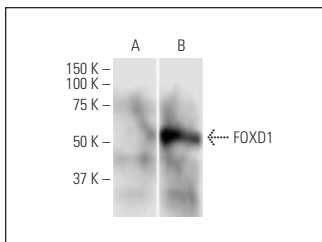
Molecular Weight of FOXD1: 46 kDa.

Positive Controls: FOXD1 transfected 293T whole cell lysates.

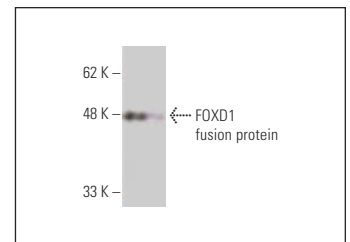
RECOMMENDED SUPPORT REAGENTS

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgG κ BP-HRP: sc-516102 or m-IgG κ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker™ Molecular Weight Standards: sc-2035, UltraCruz® Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



FOXD1 (2C10): sc-293238. Western blot analysis of FOXD1 expression in non-transfected (A) and FOXD1 transfected (B) 293T whole cell lysates.



FOXD1 (2C10): sc-293238. Western blot analysis of human recombinant FOXD1 fusion protein.

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.