

FOXL1 (S-15): sc-55653



The Power to Question

BACKGROUND

FOXL1 is a 337 amino acid protein encoded by the mouse gene *Foxl1*. FOXL1 belongs to the forkhead family and contains one forkhead DNA-binding domain. The HNF3/fork head family includes a large number of transcription factors that share a structurally related DNA binding domain. Forkhead factors are known to play important roles both during development and in adults. FOXL1 is a winged helix transcriptional regulator expressed in the mesenchymal layer of developing and mature gastrointestinal tract. FOXL1-deficient mice exhibit various defects not only in the epithelial layer of the gastrointestinal tract but also in gut-associated lymphoid tissues. In the small intestine of FOXL1-deficient mice, the formation of Peyer's patches is affected, particularly in the caudal region. FOXL1 is a mesenchymal modifier of the adenomatous polyposis coli (APC) gene products and plays a key role in gastrointestinal tumorigenesis.

REFERENCES

1. Kaestner, K.H., Lee, K.H., Schlöndorff, J., Hiemisch, H., Monaghan, A.P. and Schütz, G. 1993. Six members of the mouse forkhead gene family are developmentally regulated. *Proc. Natl. Acad. Sci. USA* 90: 7628-7631.
2. Kaestner, K.H., Bleckmann, S.C., Monaghan, A.P., Schlöndorff, J., Mincheva, A., Lichter, P. and Schütz, G. 1996. Clustered arrangement of winged helix genes *fhx-6* and *MFH-1*: possible implications for mesoderm development. *Development* 122: 1751-1758.
3. Perreault, N., Katz, J.P., Sackett, S.D. and Kaestner, K.H. 2001. FOXL1 controls the Wnt/ β -catenin pathway by modulating the expression of proteoglycans in the gut. *J. Biol. Chem.* 276: 43328-43333.
4. Mazet, F., Yu, J.K., Liberles, D.A., Holland, L.Z. and Shimeld, S.M. 2003. Phylogenetic relationships of the Fox (Forkhead) gene family in the Bilateria. *Gene* 316: 79-89.
5. Fukuda, K., Yoshida, H., Sato, T., Furumoto, T.A., Mizutani-Koseki, Y., Suzuki, Y., Saito, Y., Takemori, T., Kimura, M., Sato, H., Taniguchi, M., Nishikawa, S., Nakayama, T. and Koseki, H. 2003. Mesenchymal expression of FOXL1, a winged helix transcriptional factor, regulates generation and maintenance of gut-associated lymphoid organs. *Dev. Biol.* 255: 278-289.
6. Katz, J.P., Perreault, N., Goldstein, B.G., Chao, H.H., Ferraris, R.P. and Kaestner, K.H. 2004. FOXL1 null mice have abnormal intestinal epithelia, postnatal growth retardation, and defective intestinal glucose uptake. *Am. J. Physiol. Gastrointest. Liver Physiol.* 287: G856-G864.
7. Perreault, N., Sackett, S.D., Katz, J.P., Furth, E.E. and Kaestner, K.H. 2005. FOXL1 is a mesenchymal modifier of Min in carcinogenesis of stomach and colon. *Genes Dev.* 19: 311-315.
8. Takano-Maruyama, M., Hase, K., Fukamachi, H., Kato, Y., Koseki, H. and Ohno, H. 2006. FOXL1-deficient mice exhibit aberrant epithelial cell positioning resulting from dysregulated EphB/EphrinB expression in the small intestine. *Am. J. Physiol. Gastrointest. Liver Physiol.* 291: G163-G170.

RESEARCH USE

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

CHROMOSOMAL LOCATION

Genetic locus: *Foxl1* (mouse) mapping to 8 E1.

SOURCE

FOXL1 (S-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FOXL1 of mouse origin.

PRODUCT

Each vial contains 200 μ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-55653 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FOXL1 (S-15) is recommended for detection of FOXL1 of mouse 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 FOXL1 siRNA (m): sc-77416, FOXL1 shRNA Plasmid (m): sc-77416-SH and FOXL1 shRNA (m) Lentiviral Particles: sc-77416-V.

Molecular Weight of FOXL1: 36 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.