

FOX11 (G-14): sc-69403

BACKGROUND

FOX11 (forkhead box 11), also known as HFH3 (HNF-3/forkhead homolog 3), FKHL10 or FREAC6 (forkhead related transcription factor 6), is a member of the FOX family of transcription factors. The FOX family is a large group of proteins (consisting of at least 43 members) that share a common DNA binding domain termed winged-helix or forkhead domain. FOX transcription factors play important roles in development, differentiation, aging and hormone responsiveness. Localizing to the nucleus, FOX11 functions as a transcription factor. Mice with mutated forms of FOX11 show defects in ear development, implying that FOX11 plays a significant role in the developmental pathway of ears and, in particular, the cochlea and vestibulum. FOX11 is an upstream transcription regulator of Pendrin (a protein associated with deafness), suggesting a role for FOX11 in the pathogenesis of Pendred syndrome (PS), a condition of nonsyndromic hearing loss and enlarged vestibular aqueduct (EVA).

REFERENCES

- Hulander, M., Wurst, W., Carlsson, P. and Enerbäck, S. 1998. The winged helix transcription factor Fkh10 is required for normal development of the inner ear. *Nat. Genet.* 20: 374-376.
- Nissen, R.M., Yan, J., Amsterdam, A., Hopkins, N. and Burgess, S.M. 2003. Zebrafish foxi one modulates cellular responses to FGF signaling required for the integrity of ear and jaw patterning. *Development.* 130: 2543-2554.
- Blomqvist, S.R., Vidarsson, H., Söder, O. and Enerbäck, S. 2006. Epididymal expression of the forkhead transcription factor Foxi1 is required for male fertility. *EMBO J.* 25: 4131-4141.
- Aghaallaei, N., Bajoghli, B. and Czerny, T. 2007. Distinct roles of FGF-8, FOX11, Dlx3b and Pax-8/2 during otic vesicle induction and maintenance in medaka. *Dev. Biol.* 307: 408-420.
- Yang, T., Vidarsson, H., Rodrigo-Blomqvist, S., Rosengren, S.S., Enerback, S. and Smith, R.J. 2007. Transcriptional control of SLC26A4 is involved in Pendred syndrome and nonsyndromic enlargement of vestibular aqueduct (DFNB4). *Am. J. Hum. Genet.* 80: 1055-1063.
- Hans, S., Christison, J., Liu, D. and Westerfield, M. 2007. FGF-dependent otic induction requires competence provided by FOX11 and Dlx3b. *BMC Dev. Biol.* 7: 5.
- Sun, S.K., Dee, C.T., Tripathi, V.B., Rengifo, A., Hirst, C.S. and Scotting, P.J. 2007. Epibranchial and otic placodes are induced by a common FGF signal, but their subsequent development is independent. *Dev. Biol.* 303: 675-686.
- Nechiporuk, A., Linbo, T., Poss, K.D. and Raible, D.W. 2007. Specification of epibranchial placodes in zebrafish. *Development* 134: 611-623.
- Millimaki, B.B., Sweet, E.M., Dhason, M.S. and Riley, B.B. 2007. Zebrafish atoh1 genes: classic proneural activity in the inner ear and regulation by FGF and Notch. *Development.* 134: 295-305.

CHROMOSOMAL LOCATION

Genetic locus: FOX11 (human) mapping to 5q35.1; Foxi1 (mouse) mapping to 11 A4.

SOURCE

FOX11 (G-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of FOX11 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.

Blocking peptide available for competition studies, sc-69403 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-69403 X, 200 µg/0.1 ml.

APPLICATIONS

FOX11 (G-14) is recommended for detection of FOX11 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 FOX11 siRNA (h): sc-75052, FOX11 siRNA (m): sc-75053, FOX11 shRNA Plasmid (h): sc-75052-SH, FOX11 shRNA Plasmid (m): sc-75053-SH, FOX11 shRNA (h) Lentiviral Particles: sc-75052-V and FOX11 shRNA (m) Lentiviral Particles: sc-75053-V.

FOX11 (G-14) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of FOX11: 41 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.

RESEARCH USE

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

PROTOCOLS

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