

# FOXB2 (S-12): sc-132299

## BACKGROUND

The forkhead-box (FOX) genes comprise a superfamily of at least 43 members that encode proteins which are involved in transcriptional regulation and may be associated with the pathogenesis of various cancers. FOXB1 (forkhead box B1), also known as FKH5 or HFKH-5, and FOXB2 (forkhead box B2) are members of the FOX family and each contain one forkhead DNA-binding domain. Both FOXB1 and FOXB2 localize to the nucleus where they are thought to function as transcription factors that can bind to DNA via their forkhead domains. In mice, defects in the gene encoding FOXB1 are associated with retarded development of the central nervous system (CNS), suggesting that FOXB1 may play a role in CNS organization and function.

## REFERENCES

- Weigel, D., et al. 1990. The fork head domain: a novel DNA binding motif of eukaryotic transcription factors? *Cell* 63: 455-456.
- Kaestner, K.H., et al. 1996. Expression of the winged helix genes fkh-4 and fkh-5 defines domains in the central nervous system. *Mech. Dev.* 55: 221-230.
- Wehr, R., et al. 1997. Fkh5-deficient mice show dysgenesis in the caudal midbrain and hypothalamic mammillary body. *Development* 124: 4447-4456.
- Alvarez-Bolado, G., et al. 1999. The fork head transcription factor Fkh5/Mf3 is a developmental marker gene for superior colliculus layers and derivatives of the hindbrain somatic afferent zone. *Brain Res. Dev. Brain Res.* 112: 205-215.
- Alvarez-Bolado, G., et al. 2000. Expression of Foxb1 reveals two strategies for the formation of nuclei in the developing ventral diencephalon. *Dev. Neurosci.* 22: 197-206.
- Kloetzli, J.M., et al. 2001. The winged helix gene, Foxb1, controls development of mammary glands and regions of the CNS that regulate the milk-ejection reflex. *Genesis* 29: 60-71.
- Pohl, B.S., et al. 2002. Sequence and expression of FoxB2 (XFD-5) and Foxl1c (XFD-10) in *Xenopus* embryogenesis. *Mech. Dev.* 117: 283-287.
- Katoh, M., et al. 2004. Human FOX gene family (Review). *Int. J. Oncol.* 25: 1495-1500.
- Radyushkin, K., et al. 2005. Genetic ablation of the mammillary bodies in the Foxb1 mutant mouse leads to selective deficit of spatial working memory. *Eur. J. Neurosci.* 21: 219-229.

## CHROMOSOMAL LOCATION

Genetic locus: FOXB2 (human) mapping to 9q21.2; Foxb2 (mouse) mapping to 19 B.

## SOURCE

FOXB2 (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of FOXB2 of human origin.

## RESEARCH USE

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

## 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-132299 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

FOXB2 (S-12) is recommended for detection of FOXB2 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); non cross-reactive with FOXB1.

FOXB2 (S-12) is also recommended for detection of FOXB2 in additional species, including canine, bovine and porcine.

Suitable for use as control antibody for FOXB2 siRNA (h): sc-92836, FOXB2 siRNA (m): sc-145220, FOXB2 shRNA Plasmid (h): sc-92836-SH, FOXB2 shRNA Plasmid (m): sc-145220-SH, FOXB2 shRNA (h) Lentiviral Particles: sc-92836-V and FOXB2 shRNA (m) Lentiviral Particles: sc-145220-V.

Molecular Weight of FOXB2: 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](http://www.scbt.com) or our catalog for detailed protocols and support products.