

FOXD3 (5G9B10): sc-517206



The Power to Question

BACKGROUND

Embryonic stem cells require the forkhead transcriptional regulator FOXD3 for survival. Following gastrulation, FOXD3 generally gets downregulated, except in the neural crest. A variety of growth factors induce FOXD3 expression, including FGF8 and SNAIL, maintaining the effected cells in an undifferentiated state. Thus defects in FOXD3 induction may cause premature differentiation and/or migration-associated birth defects.

REFERENCES

- Hanna, L.A., et al. 2002. Requirement for FOXD3 in maintaining pluripotent cells of the early mouse embryo. *Genes Dev.* 16: 2650-2661.
- Guo, Y., et al. 2002. The embryonic stem cell transcription factors Oct-4 and FOXD3 interact to regulate endodermal-specific promoter expression. *Proc. Natl. Acad. Sci. USA* 99: 3663-3667.
- Aybar, M.J., et al. 2003. SNAIL precedes SLUG in the genetic cascade required for the specification and migration of the *Xenopus* neural crest. *Development* 130: 483-494.
- Monsoro-Burq, A.H., et al. 2003. Neural crest induction by paraxial mesoderm in *Xenopus* embryos requires FGF signals. *Development* 130: 3111-3124.

CHROMOSOMAL LOCATION

Genetic locus: FOXD3 (human) mapping to 1p31.3; Foxd3 (mouse) mapping to 4 C6.

SOURCE

FOXD3 (5G9B10) is a mouse monoclonal antibody raised against a recombinant protein corresponding to amino acids 132-293 of FOXD3 of human origin.

PRODUCT

Each vial contains 50 μ l ascites containing IgG₁ kappa light chain with < 0.1% sodium azide.

APPLICATIONS

FOXD3 (5G9B10) is recommended for detection of FOXD3 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)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 FOXD3 siRNA (h): sc-43768, FOXD3 siRNA (m): sc-145222, FOXD3 shRNA Plasmid (h): sc-43768-SH, FOXD3 shRNA Plasmid (m): sc-145222-SH, FOXD3 shRNA (h) Lentiviral Particles: sc-43768-V and FOXD3 shRNA (m) Lentiviral Particles: sc-145222-V.

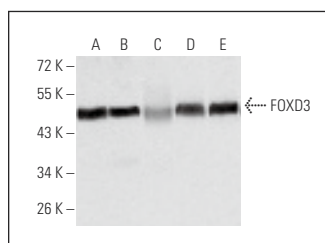
Molecular Weight of FOXD3: 48 kDa.

Positive Controls: HEK293 whole cell lysate: sc-45136, HeLa whole cell lysate: sc-2200 or Jurkat whole cell lysate: sc-2204.

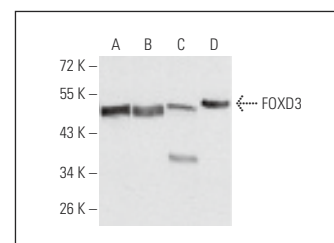
RECOMMENDED SUPPORT REAGENTS

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). 3) Immunofluorescence: use m-IgG κ BP-FITC: sc-516140 or m-IgG κ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz® Mounting Medium: sc-24941 or UltraCruz® Hard-set Mounting Medium: sc-359850. 4) Immunohistochemistry: use m-IgG κ BP-HRP: sc-516102 with DAB, 50X: sc-24982 and Immunohistomount: sc-45086, or Organo/Limonene Mount: sc-45087.

DATA



FOXD3 (5G9B10): sc-517206. Western blot analysis of FOXD3 expression in NTERA-2 (A), HUVE-12 (B), HEK293 (C), HeLa (D) and Jurkat (E) whole cell lysates.



FOXD3 (5G9B10): sc-517206. Western blot analysis of FOXD3 expression in K-562 (A), RAW 264.7 (B), NIH/3T3 (C) and COS7 (D) whole cell lysates.

SELECT PRODUCT CITATIONS

- Costa, R., et al. 2021. Mitochondrial dysfunction interferes with neural crest specification through the FOXD3 transcription factor. *Pharmacol. Res.* 164: 105385.
- Rezania, M.A., et al. 2022. A novel role for aspirin in enhancing the reprogramming function of miR-302/367 cluster and breast tumor suppression. *J. Cell. Biochem.* 123: 1077-1090.
- Wang, S., et al. 2023. FOXD3 confers chemo-sensitivity in ovarian cancer through a miR-335/DAAM1/myosin II axis-dependent mechanism. *J. Ovarian Res.* 16: 8.
- Chen, S., et al. 2023. LMP1 mediates tumorigenesis through persistent epigenetic modifications and PGC1 β upregulation. *Oncol. Rep.* 49: 53.
- Chen, Z., et al. 2024. Calotropin attenuates ischemic heart failure after myocardial infarction by modulating SIRT1/FOXD3/SERCA2a pathway. *Biomed. Pharmacother.* 179: 117384.

STORAGE

For immediate and continuous use, store at 4° C for up to one month. For sporadic use, freeze in working aliquots in order to avoid repeated freeze/thaw cycles. If turbidity is evident upon prolonged storage, clarify solution by centrifugation.

RESEARCH USE

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