

FOXN1 (E-3): sc-271256

BACKGROUND

The Fox family of transcription factors is a large group of proteins that share a common DNA binding domain termed a winged-helix or forkhead domain. FOXN1, also designated Transcription factor winged-nude (WHN), is required for keratinocyte growth, as well as differentiation of epithelial progenitor cells in the thymic primordium into subcapsular, cortical, and medullary epithelial cells of the mature thymus. Mutations in the FOXN1 gene are responsible for nude, immune-deficient mice and rats. These nude mice are useful as hosts for xenografts in cancer research. The promoters for FOXN1 are active in the skin and thymus reflecting the critical role FOXN1 plays in the proper development of these tissues. Secreted Wnt glycoproteins appear to regulate FOXN1 transcription in the thymus. FOXN1 is expressed in the embryonic thymus after the common primordium is formed, beginning at E11.25. FOXN1 is also expressed at very low levels in normal human kidney and thyroid gland. In human, it is also expressed in the differentiating cells of the hair follicle precortex, the innermost layer of the outer root sheath, and the thymus.

REFERENCES

1. Nehls, M., et al. 1994. New member of the winged-helix protein family disrupted in mouse and rat nude mutations. *Nature* 372: 103-107.
2. Segre, J.A., et al. 1995. Positional cloning of the nude locus: genetic, physical, and transcription maps of the region and mutations in the mouse and rat. *Genomics* 28: 549-559.
3. Schorpp, M., et al. 1997. Characterization of mouse and human nude genes. *Immunogenetics* 46: 509-515.

CHROMOSOMAL LOCATION

Genetic locus: FOXN1 (human) mapping to 17q11.2; Foxn1 (mouse) mapping to 11 B5.

SOURCE

FOXN1 (E-3) is a mouse monoclonal antibody raised against amino acids 1-270 mapping at the N-terminus of FOXN1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_{2a} kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-271256 X, 200 µg/0.1 ml.

FOXN1 (E-3) is available conjugated to agarose (sc-271256 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-271256 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-271256 PE), fluorescein (sc-271256 FITC), Alexa Fluor[®] 488 (sc-271256 AF488), Alexa Fluor[®] 546 (sc-271256 AF546), Alexa Fluor[®] 594 (sc-271256 AF594) or Alexa Fluor[®] 647 (sc-271256 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor[®] 680 (sc-271256 AF680) or Alexa Fluor[®] 790 (sc-271256 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

In addition, FOXN1 (E-3) is available conjugated to biotin (sc-271256 B), 200 µg/ml, for WB, IHC(P) and ELISA.

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APPLICATIONS

FOXN1 (E-3) is recommended for detection of FOXN1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], 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).

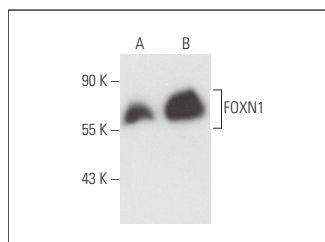
Suitable for use as control antibody for FOXN1 siRNA (h): sc-38611, FOXN1 siRNA (m): sc-38612, FOXN1 shRNA Plasmid (h): sc-38611-SH, FOXN1 shRNA Plasmid (m): sc-38612-SH, FOXN1 shRNA (h) Lentiviral Particles: sc-38611-V and FOXN1 shRNA (m) Lentiviral Particles: sc-38612-V.

FOXN1 (E-3) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of FOXN1: 69 kDa.

Positive Controls: Raji whole cell lysate: sc-364236 or SK-MEL-28 nuclear extract: sc-2236.

DATA



FOXN1 (E-3): sc-271256. Western blot analysis of FOXN1 expression in Raji whole cell lysate (A) and SK-MEL-28 nuclear extract (B).

SELECT PRODUCT CITATIONS

1. Soh, C.L., et al. 2014. FOXN1^{GFP/w} reporter hESCs enable identification of Integrin-β4, HLA-DR, and EpCAM as markers of human PSC-derived FOXN1+ thymic epithelial progenitors. *Stem Cell Reports* 2: 925-937.
2. Ji, X., et al. 2018. Forkhead box N1 inhibits the progression of non-small cell lung cancer and serves as a tumor suppressor. *Oncol. Lett.* 15: 7221-7230.
3. Moses, A., et al. 2023. Comprehensive phenotypic analysis of diverse FOXN1 variants. *J. Allergy Clin. Immunol.* 152: 1273-1291.e15.

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.