

FKHRL1 (H-144): sc-11351

BACKGROUND

FKHRL1 (forkhead in rhabdomyosarcoma-like 1), also known as FOXO3 (forkhead box O3) or FOXO3A, is a 673 amino acid transcriptional activator that belongs to the FKHR subfamily of forkhead transcription factors. Transcriptional activation of FKHR proteins is regulated by the serine/threonine kinase Akt1, which phosphorylates FKHRL1 at Threonine 32 and Serine 253. Phosphorylation by Akt1 negatively regulates FKHRL1 by promoting its export from the nucleus. Phosphorylated FKHRL1 associates with 14-3-3 proteins and this complex is retained in the cytoplasm. Growth factor withdrawal stimulates FKHRL1 dephosphorylation and nuclear translocation, leading to FKHR-induced gene-specific transcriptional activation. Within the nucleus, dephosphorylated FKHRL1 triggers apoptosis by inducing the expression of genes that are critical for cell death.

CHROMOSOMAL LOCATION

Genetic locus: FOXO3A (human) mapping to 6q21; Foxo3a (mouse) mapping to 10 B2.

SOURCE

FKHRL1 (H-144) is a rabbit polyclonal antibody raised against amino acids 329-472 of FKHRL1 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. Also available as TransCruz reagent for Gel Supershift and ChIP applications, sc-11351 X, 200 µg/0.1 ml.

APPLICATIONS

FKHRL1 (H-144) is recommended for detection of FKHRL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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). FKHRL1 (H-144) is also recommended for detection of FKHRL1 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for FKHRL1 siRNA (h): sc-37887, FKHRL1 siRNA (m): sc-37888, FKHRL1 shRNA Plasmid (h): sc-37887-SH, FKHRL1 shRNA Plasmid (m): sc-37888-SH, FKHRL1 shRNA (h) Lentiviral Particles: sc-37887-V and FKHRL1 shRNA (m) Lentiviral Particles: sc-37888-V.

FKHRL1 (H-144) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of FKHRL1: 71 kDa.

Molecular Weight (observed) of FKHRL1: 87-99 kDa.

Positive Controls: NIH/3T3 + PDGF cell lysate: sc-3803, HeLa nuclear extract: sc-2120 or TE671 cell lysate: sc-2416.

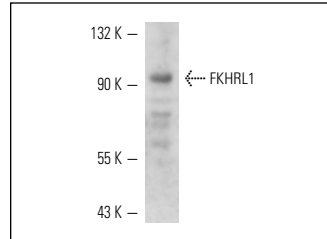
RESEARCH USE

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

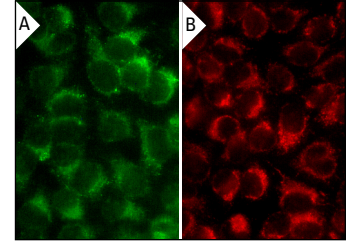
STORAGE

Store at 4° C, ****DO NOT FREEZE****. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

DATA



FKHRL1 (H-144): sc-11351. Western blot analysis of FKHRL1 expression in PDGF-treated NIH/3T3 whole cell lysate.



FKHRL1 (H-144): sc-11351. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A,B).

SELECT PRODUCT CITATIONS

1. Tsuruta, F., et al. 2002. The phosphatidylinositol 3-kinase (PI3K)-Akt pathway suppresses Bax translocation to mitochondria. *J. Biol. Chem.* 277: 14040-14047.
2. Terragni, J., et al. 2011. The E-box binding factors Max/Mnt, MITF, and USF1 act coordinately with FoxO to regulate expression of proapoptotic and cell cycle control genes by phosphatidylinositol 3-kinase/Akt/glycogen synthase kinase 3 signaling. *J. Biol. Chem.* 286: 36215-36227.
3. Xiong, S., et al. 2011. FoxO1 mediates an autofeedback loop regulating SIRT1 expression. *J. Biol. Chem.* 286: 5289-5299.
4. Haren, M.T., et al. 2011. Testosterone modulates gene expression pathways regulating nutrient accumulation, glucose metabolism and protein turnover in mouse skeletal muscle. *Int. J. Androl.* 34: 55-68.
5. Youngson, N.A., et al. 2011. A missense mutation in the transcription factor Foxo3a causes teratomas and oocyte abnormalities in mice. *Mamm. Genome* 22: 235-248.
6. Hughes, R., et al. 2011. NF-Y is essential for expression of the proapoptotic bim gene in sympathetic neurons. *Cell Death Differ.* 18: 937-947.
7. Senf, S.M., et al. 2011. p300 Acetyltransferase activity differentially regulates the localization and activity of the FOXO homologues in skeletal muscle. *Am. J. Physiol., Cell Physiol.* 300: C1490-C1501.

PROTOCOLS

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Try **FKHRL1 (D-12): sc-48348**, our highly recommended monoclonal alternative to FKHRL1 (H-144). Also, for AC, HRP, FITC, PE, Alexa Fluor® 488 and Alexa Fluor® 647 conjugates, see **FKHRL1 (D-12): sc-48348**.