SANTA CRUZ BIOTECHNOLOGY, INC.

FKHRL1 (N-15): sc-34897

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

FKHRL1 (for forkhead in rhabdomyosarcoma) is a member of 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.

REFERENCES

1. Hillion, J., et al. 1997. AF6q21, a novel partner of the MLL gene in t(6;11)(q21;q23), defines a forkhead transcriptional factor subfamily. Blood 90: 3714-3719.
2. Anderson, M.J., et al. 1998. Cloning and characterization of three human forkhead genes that comprise an FKHR-like gene subfamily. Genomics 47: 187-199.
3. Brunet, A., et al. 1999. Akt promotes cell survival by phosphorylating and inhibiting a Forkhead transcription factor. Cell 96: 857-868.
4. Brunet, A., et al. 2001. Protein kinase SGK mediates survival signals by phosphorylating the forkhead transcription factor FKHRL1 (FOXO3a). Mol. Cell. Biol. 21: 952-965.

CHROMOSOMAL LOCATION

Genetic locus: FOXO3 (human) mapping to 6q21; Foxo3 (mouse) mapping to 10 B2.

SOURCE

FKHRL1 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus 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-34897 X, 200 µg/0.1 ml.

Blocking peptide available for competition studies, sc-34897 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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.

APPLICATIONS

FKHRL1 (N-15) 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), 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). FKHRL1 (N-15) is also recommended for detection of FKHRL1 in additional species, including bovine and porcine.

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.

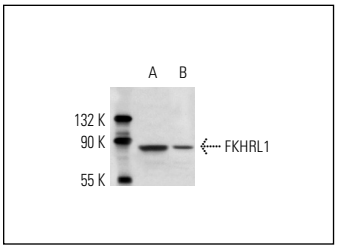
FKHRL1 (N-15) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight (predicted) of FKHRL1: 71 kDa.

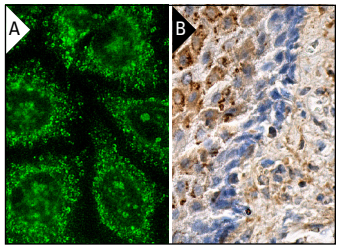
Molecular Weight (observed) of FKHRL1: 87-99 kDa.

Positive Controls: HeLa nuclear extract: sc-2120, TE671 cell lysate: sc-2416 or NIH/3T3 nuclear extract: sc-2138.

DATA



FKHRL1 (N-15): sc-34897. Western blot analysis of FKHRL1 expression in HeLa (**A**) and NIH/3T3 (**B**) nuclear extracts.



FKHRL1 (N-15): sc-34897. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human cervix tissue showing cytoplasmic staining of squamous epithelial cells (**B**).

SELECT PRODUCT CITATIONS

1. Cai, B., et al. 2008. p38 MAP kinase mediates arsenite-induced apoptosis through FOXO3a activation and induction of Bim transcription. Apoptosis 13: 803-810.
2. Oostendorp, R.A., et al. 2008. Oncostatin M-mediated regulation of KIT-ligand-induced extracellular signal-regulated kinase signaling maintains hematopoietic repopulating activity of Lin-CD34^{+}CD133^{+} cord blood cells. Stem Cells 26: 2164-2172.