SANTA CRUZ BIOTECHNOLOGY, INC.

p-FKHRL1 (Thr 32): sc-12357

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.

CHROMOSOMAL LOCATION

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

SOURCE

p-FKHRL1 (Thr 32) is available as either goat (sc-12357) or rabbit (sc-12357-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Thr 32 phosphorylated 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.

Blocking peptide available for competition studies, sc-12357 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

Available as TransCruz reagent for Gel Supershift and ChIP applications, sc-12357 X, 200 µg/0.1 ml.

APPLICATIONS

p-FKHRL1 (Thr 32) is recommended for detection of Thr 32 phosphorylated 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).

p-FKHRL1 (Thr 32) is also recommended for detection of correspondingly phosphorylated 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.

p-FKHRL1 (Thr 32) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

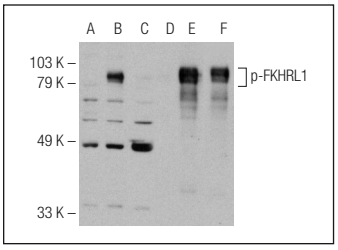
Molecular Weight of FKHRL1: 97 kDa.

Positive Controls: FKHRL1 (m): 293T Lysate: sc-178617, NIH/3T3 + serum cell lysate: sc-2248 or NIH/3T3 whole cell lysate: sc-2210.

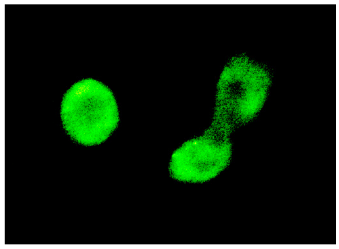
STORAGE

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

DATA



Western blot analysis of FKHRL1 phosphorylation in non-transfected: sc-117752 (**A**,**D**), untreated mouse FKHRL1 transfected: sc-178617 (**B**,**E**) and lambda protein phosphatase (sc-200312A) treated mouse FKHRL1 transfected: sc-178617 (**C**,**F**) 293T whole cell lysates. Antibodies tested include p-FKHRL1 (Thr 32)-R: sc-12357-R (**A**,**B**,**C**) and FKHRL1 (m): 293T Lysate: sc-11351 (**D**,**E**,**F**).



p-FKHRL1 (Thr 32): sc-12357. Immunofluorescence staining of methanol-fixed NIH/3T3 cells showing cytoplasmic localization.

SELECT PRODUCT CITATIONS

1. Andreucci, M., et al. 2003. Renal ischemia/reperfusion and ATP depletion/repletion in LLC-PK_1 cells result in phosphorylation of FKHR and FKHRL1. Kidney Int. 64: 1189-1198.
2. Gu, T.L., et al. 2004. NPM-ALK fusion kinase of anaplastic large-cell lymphoma regulates survival and proliferative signaling through modulation of FOXO3α. Blood 103: 4622-4629.
3. Schmitt, T.L., et al. 2007. Activity of the Akt-dependent anabolic and catabolic pathways in muscle and liver samples in cancer-related cachexia. J. Mol. Med. 85: 647-654.
4. Baumann, P., et al. 2009. The novel orally bioavailable inhibitor of phosphoinositol-3-kinase and mammalian target of rapamycin, NVP-BEZ235, inhibits growth and proliferation in multiple myeloma. Exp. Cell Res. 315: 485-497.
5. Matrone, A., et al. 2010. p38α is required for ovarian cancer cell metabolism and survival. Int. J. Gynecol. Cancer 20: 203-211.
6. Choi, Y.J., et al. 2011. Attenuation of age-related changes in FOXO3α activity and the PI3K/Akt pathway by short-term feeding of ferulate. Age 34: 317-327.
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.
8. Kuo, T., et al. 2012. Genome-wide analysis of glucocorticoid receptor-binding sites in myotubes identifies gene networks modulating Insulin signaling. Proc. Natl. Acad. Sci. USA 109: 11160-11165.

RESEARCH USE

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