

## FKHR (N-18): sc-9809

### BACKGROUND

FKHR (for forkhead in rhabdomyosarcoma) and FKHL1 are members of the forkhead family of transcription factors. Transcriptional activation of FKHR proteins is regulated by the serine/threonine kinase Akt1, which phosphorylates FKHL1 and results in FKHL1 associating with 14-3-3 proteins and being retained in the cytoplasm. Induction of apoptosis or withdrawal of growth factors stimulates dephosphorylation and nuclear translocation of FKHR proteins, leading to FKHR-induced gene-specific transcriptional activation. FKHR, also designated forkhead box protein O1A (FOXO1), is a ubiquitously expressed protein that shuttles between the cytoplasm and nucleus. Genetic mutations in FKHR genes, including the t(2;13) and t(1;3) translocations, are commonly found in alveolar rhabdomyosarcomas. These translocations result in the fusion of the amino-terminus of Pax-3 or Pax-7, including the paired box and homeodomain DNA-binding domains, with the carboxy-terminus of FKHR, which contains a transcriptional activation domain. The Pax-3/FKHR fusion protein appears to function as an oncogenic transcription factor that enhances the activation of normal Pax-3 target genes.

### CHROMOSOMAL LOCATION

Genetic locus: FOXO1 (human) mapping to 13q14.11; Foxo1 (mouse) mapping to 3 C.

### SOURCE

FKHR (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-terminus of FKHR 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-9809 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-9809 X, 200 µg/ 0.1 ml.

### APPLICATIONS

FKHR (N-18) is recommended for detection of FKHR 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).

FKHR (N-18) is also recommended for detection of FKHR in additional species, including canine, bovine, porcine and avian.

Suitable for use as control antibody for FKHR siRNA (h): sc-35382, FKHR siRNA (m): sc-35383, FKHR shRNA Plasmid (h): sc-35382-SH, FKHR shRNA Plasmid (m): sc-35383-SH, FKHR shRNA (h) Lentiviral Particles: sc-35382-V and FKHR shRNA (m) Lentiviral Particles: sc-35383-V.

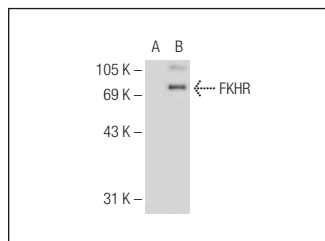
FKHR (N-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of FKHR: 80 kDa.

### STORAGE

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

### DATA



FKHR (N-18): sc-9809. Western blot analysis of FKHR expression in non-transfected: sc-110760 (A) and mouse FKHR transfected: sc-178616 (B) 293 whole cell lysates.

### SELECT PRODUCT CITATIONS

- Schmoll, D., et al. 2000. Regulation of glucose-6-phosphatase gene expression by protein kinase B $\alpha$  and the forkhead transcription factor FKHR. Evidence for insulin response unit-dependent and -independent effects of insulin on promoter activity. *J. Biol. Chem.* 275: 36324-36333.
- Armoni, M. and Harel, C. 2006. FOXO1 represses peroxisome proliferator-activated receptor- $\gamma$ 1 and - $\gamma$ 2 gene promoters in primary adipocytes. A novel paradigm to increase insulin sensitivity. *J. Biol. Chem.* 281: 19881-19891.
- Yalcin, S., et al. 2008. Foxo3 is essential for the regulation of ataxia telangiectasia mutated and oxidative stress-mediated homeostasis of hematopoietic stem cells. *J. Biol. Chem.* 283: 25692-25705.
- de Keizer, P.L., et al. 2010. Activation of forkhead box O transcription factors by oncogenic BRAF promotes p21<sup>cip1</sup>-dependent senescence. *Cancer Res.* 70: 8526-8536.
- Zhang, B., et al. 2013. SIRT3 overexpression antagonizes high glucose accelerated cellular senescence in human diploid fibroblasts via the SIRT3-FOXO1 signaling pathway. *Age* 35: 2237-2253.
- Liu, X., et al. 2014. CRM1 is a direct cellular target of the natural anti-cancer agent plumbagin. *J. Pharmacol. Sci.* 124: 486-493.

### RESEARCH USE

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



Try **FKHR (C-9): sc-374427** or **FKHR (A-6): sc-514610**, our highly recommended monoclonal alternatives to FKHR (N-18). Also, for AC, HRP, FITC, PE, Alexa Fluor<sup>®</sup> 488 and Alexa Fluor<sup>®</sup> 647 conjugates, see **FKHR (C-9): sc-374427**.