

p-FKHR1 (Ser 253): sc-12897

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

- Galili, N., et al. 1993. Fusion of a forkhead domain gene to Pax-3 in the solid tumour alveolar rhabdomyosarcoma. *Nat. Genet.* 5: 230-235.
- 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.
- Biggs, W.H., et al. 1999. Protein kinase B/Akt-mediated phosphorylation promotes nuclear exclusion of the winged helix transcription factor FKHR1. *Proc. Natl. Acad. Sci. USA* 96: 7421-7426.
- Brunet, A., et al. 1999. Akt promotes cell survival by phosphorylating and inhibiting a forkhead transcription factor. *Cell* 96: 857-868.
- Tang, E.D., et al. 1999. Negative regulation of the forkhead transcription factor FKHR by Akt. *J. Biol. Chem.* 274: 16741-16746.

CHROMOSOMAL LOCATION

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

SOURCE

p-FKHRL1 (Ser 253) is available as either goat (sc-12897) or rabbit (sc-12897-R) polyclonal affinity purified antibody raised against a short amino acid sequence containing Ser 253 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-12897 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-12897 X, 200 µg/0.1 ml.

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

p-FKHRL1 (Ser 253) is recommended for detection of Ser 253 phosphorylated FKHRL1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

p-FKHRL1 (Ser 253) is also recommended for detection of correspondingly FKHRL1 in additional species, including equine, canine, bovine, porcine and avian.

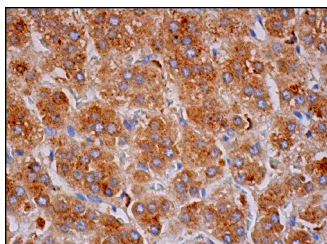
Suitable for use as control antibody for FKHRL1 siRNA (h): sc-37887, FKHRL1 siRNA (m): sc-37888, FKHRL1 shRNA Plasmid (h): sc-37887-SH, FKHRL1 shRNA Plasmid (m): sc-37888-SH, FKHRL1 shRNA (h) Lentiviral Particles: sc-37887-V and FKHRL1 shRNA (m) Lentiviral Particles: sc-37888-V.

p-FKHRL1 (Ser 253) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

Molecular Weight of p-FKHRL1: 97 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210 or NIH/3T3 + serum cell lysate: sc-2248.

DATA



p-FKHRL1 (Ser 253)-R: sc-12897-R. Immunoperoxidase staining of formalin fixed, paraffin-embedded human adrenal gland tissue showing cytoplasmic staining of glandular cells.

SELECT PRODUCT CITATIONS

- Rudelius, M., et al. 2006. Constitutive activation of Akt contributes to the pathogenesis and survival of mantle cell lymphoma. *Blood* 108: 1668-1676.
- Choi, Y.J., et al. 2011. Attenuation of age-related changes in FOXO3a activity and the PI3K/Akt pathway by short-term feeding of ferulate. *Age* 34: 317-327.
- Ji, F., et al. 2012. BAFF induces spleen CD4⁺ T cell proliferation by down-regulating phosphorylation of FOXO3A and activates cyclin D2 and D3 expression. *Biochem. Biophys. Res. Commun.* 425: 854-858.
- Parody, J.P., et al. 2014. FoxO3a modulation and promotion of apoptosis by interferon-α2b in rat preneoplastic liver. *Liver Int.* 34: 1566-1577.