SANTA CRUZ BIOTECHNOLOGY, INC.

RFX2 (A-18): sc-10659

BACKGROUND

EP is a regulatory enhancer element found in several promoters on viral genes, and similar sites are also present in cellular genes, including the MIF-1 binding site (MIE) of the human c-Myc gene, the X box of MHC class II promoters and a binding site in the proliferating cell nuclear antigen promoter. The EP sites present in the X box of MHC class II promoters are distinctly nonpalindromic sequences that contain only a single EP-homologous half-site. The EP element is bound by an ubiquitous nuclear protein complex that consists of homo- and heterodimers involving the RFX1, RFX2 and RFX3 proteins. The RFX proteins represent an essential class II transcription factor family that shares several conserved regions, including the centrally located DNA-binding domain (DBD) and the D region found in the C-terminal part of these proteins which facilitates dimerization. RFX complexes can activate the enhancer elements of several HBV genes and also promote the induction of MHC class II genes in response to interferon-γ stimulation. Two additional subunits, RFX5, RFX-B/Ank, are also involved in the RFX complexes, yet they bind additional elements in the X1 half of the X box.

REFERENCES

1. Dikstein, R., et al. 1990. Functional organization of the hepatitis B virus enhancer. Mol. Cell. Biol. 10: 3682-3689.
2. Fontes, J.D., et al. 1997. Assembly of functional regulatory complexes on MHC class II promoters *in vivo.* J. Mol. Biol. 270: 336-345.
3. Katan, Y., et al. 1997. The transcriptional activation and repression domains of RFX1, a context-dependent regulator, can mutually neutralize their activities. Nucleic Acids Res. 25: 3621-3628.
4. Masternak, K., et al. 1998. A gene encoding a novel RFX-associated transactivator is mutated in the majority of MHC class II deficiency patients. Nat. Genet. 20: 273-277.
5. Katan-Khaykovich, Y., et al. 1998. RFX1, a single DNA-binding protein with a split dimerization domain, generates alternative complexes. J. Biol. Chem. 273: 24504-24512.

SOURCE

RFX2 (A-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of RFX2 of mouse 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-10659 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-10659 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.

APPLICATIONS

RFX2 (A-18) is recommended for detection of RFX1, 2 and 3 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).

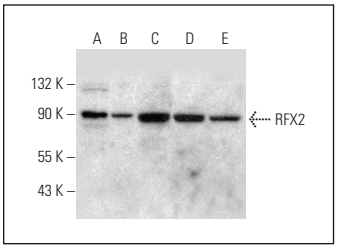
RFX2 (A-18) is also recommended for detection of RFX1, RFX2 and RFX3 in additional species, including equine, canine, bovine and avian.

RFX2 (A-18) X TransCruz antibody is recommended for Gel Supershift and ChIP applications.

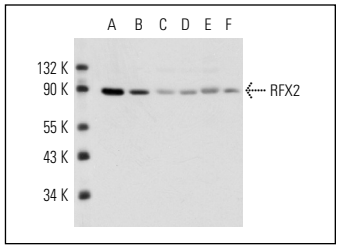
Molecular Weight of RFX2: 77-80 kDa.

Positive Controls: NIH/3T3 whole cell lysate: sc-2210, KNRK whole cell lysate: sc-2214 or HeLa whole cell lysate: sc-2200.

DATA



RFX2 (A-18): sc-10659. Western blot analysis of RFX2 expression in HeLa (**A**), KNRK (**B**), NIH/3T3 (**C**), PC-12 (**D**) and RAW 264.7 (**E**) whole cell lysates.



RFX2 (A-18): sc-10659. Western blot analysis of RFX2 expression in NIH/3T3 (**A**), KNRK (**B**), K-562 (**C**) and HeLa (**D**) whole cell lysates and HeLa (**E**) and NIH/3T3 (**F**) nuclear extracts.

SELECT PRODUCT CITATIONS

1. Wolfe, S.A., et al. 2006. Transcription factor RFX2 is abundant in rat testis and enriched in nuclei of primary spermatocytes where it appears to be required for transcription of the testis-specific histone H1t gene. J. Cell. Biochem. 99: 735-746.
2. Wolfe, S.A., et al. 2008. Transcription factor RFX4 binding to the testis-specific histone H1t promoter in spermatocytes may be important for regulation of H1t gene transcription during spermatogenesis. J. Cell. Biochem. 105: 61-69.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.