



RFX4 (S-25): sc-102081

BACKGROUND

EP and EP-like sites are regulatory enhancer elements found in the promoters of several viral and mammalian genes which, in humans, include the MIF-1 binding site (MIE) of the c-Myc gene, the X-box of MHC class II promoters and a binding site in the PCNA (proliferating cell nuclear antigen) promoter. The EP-like sites present in the X-box of MHC class II promoters are distinctly non-palindromic sequences that contain only a single EP-homologous half-site. The EP-like element is bound by a ubiquitous nuclear protein complex that consists of homo- and heterodimers involving the RFX1, RFX2, RFX3, RFX4 and RFX5 proteins. The RFX proteins represent an essential class II transcription factor family that share several conserved regions, including a centrally located DNA-binding domain (DBD) and a C-terminal D-region that facilitates dimerization. RFX4 is a 735 amino acid nuclear protein that, via interactions with other RFX proteins, can bind DNA and is thought to activate the transcription of target genes. Four isoforms, each of which exhibit different tissue specificity, exist due to alternative splicing events.

REFERENCES

1. Reith, W., et al. 1994. RFX1, a transactivator of hepatitis B virus enhancer I, belongs to a novel family of homodimeric and heterodimeric DNA-binding proteins. *Mol. Cell. Biol.* 14: 1230-1244.
2. Emery, P., et al. 1996. RFX proteins, a novel family of DNA binding proteins conserved in the eukaryotic kingdom. *Nucleic Acids Res.* 24: 803-807.
3. Online Mendelian Inheritance in Man, OMIM™. 1999. Johns Hopkins University, Baltimore, MD. MIM Number: 603958. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
4. Gajiwala, K.S., et al. 2000. Structure of the winged-helix protein hRFX1 reveals a new mode of DNA binding. *Nature* 403: 916-921.
5. Morotomi-Yano, K., et al. 2002. Human regulatory factor X 4 (RFX4) is a testis-specific dimeric DNA-binding protein that cooperates with other human RFX members. *J. Biol. Chem.* 277: 836-842.
6. Blackshear, P.J., et al. 2003. Graded phenotypic response to partial and complete deficiency of a brain-specific transcript variant of the winged helix transcription factor RFX4. *Development* 130: 4539-4552.
7. Araki, R., et al. 2004. Restricted expression and photic induction of a novel mouse regulatory factor X4 transcript in the suprachiasmatic nucleus. *J. Biol. Chem.* 279: 10237-10242.

CHROMOSOMAL LOCATION

Genetic locus: RFX4 (human) mapping to 12q23.3; Rfx4 (mouse) mapping to 10 C1.

STORAGE

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

PROTOCOLS

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

SOURCE

RFX4 (S-25) is a purified rabbit polyclonal antibody raised against RFX4 of human origin.

PRODUCT

Each vial contains 50 µg IgG in 500 µl PBS with < 0.1% sodium azide, 0.1% gelatin and < 0.02% sucrose.

APPLICATIONS

RFX4 (S-25) is recommended for detection of RFX4 of mouse, rat, human, dog and zebra fish 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)] and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for RFX4 siRNA (h): sc-95773, RFX4 siRNA (m): sc-152827, RFX4 shRNA Plasmid (h): sc-95773-SH, RFX4 shRNA Plasmid (m): sc-152827-SH, RFX4 shRNA (h) Lentiviral Particles: sc-95773-V and RFX4 shRNA (m) Lentiviral Particles: sc-152827-V.

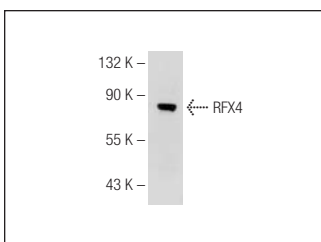
Molecular Weight of RFX4: 80 kDa.

Positive Controls: Hep G2 cell lysate: sc-2227.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml).

DATA



RFX4 (S-25): sc-102081. Western blot analysis of RFX4 expression in Hep G2 whole cell lysate.

RESEARCH USE

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