

## FKBP51 (F-14): sc-11518

### BACKGROUND

The immunophilins are a highly conserved family of *cis-trans* peptidyl-prolyl isomerases that bind to and mediate the effects of immunosuppressive drugs, such as cyclosporin, FK506 and rapamycin. Several related immunophilins, FKBP12, FKBP51 and FKBP52, are characterized as cytosolic FK506-binding proteins, and following ligand binding, they functionally inhibit the phosphatase activity of calcineurin. The ubiquitously expressed FKBP12 also associates with the cytoplasmic domain of the TGF $\beta$ -type I receptor, where it stabilizes the inactive conformation of the receptor and blocks the activation of the TGF $\beta$  pathway. FKBP51 and FKBP52 are two highly related proteins. FKBP51 is predominantly expressed in T cells and is induced by glucocorticoids. FKBP51 mediates the effects of FK506 and rapamycin by inhibiting intracellular calcineurin activity, and by blocking T-cell activation and proliferation. FKBP52, known also as FKBP-59 or heat shock protein 56, is expressed in a variety of tissues and can also associate with the heat shock protein (hsp90) in mature steroid receptor complexes.

### CHROMOSOMAL LOCATION

Genetic locus: FKBP5 (human) mapping to 6p21.31; Fkbp5 (mouse) mapping to 17 A3.3.

### SOURCE

FKBP51 (F-14) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus of FKBP51 of mouse origin.

### PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-11518 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

### APPLICATIONS

FKBP51 (F-14) is recommended for detection of FKBP51 of mouse, rat and, to a lesser extent, human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], 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).

Suitable for use as control antibody for FKBP51 siRNA (h): sc-35380, FKBP51 siRNA (m): sc-35381, FKBP51 shRNA Plasmid (h): sc-35380-SH, FKBP51 shRNA Plasmid (m): sc-35381-SH, FKBP51 shRNA (h) Lentiviral Particles: sc-35380-V and FKBP51 shRNA (m) Lentiviral Particles: sc-35381-V.

Molecular Weight of FKBP51: 51 kDa.

Positive Controls: mouse thymus extract: sc-2406 or rat thymus extract: sc-2401.

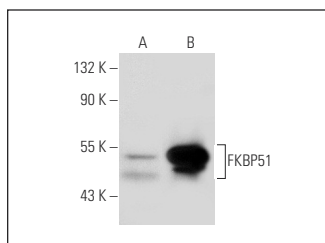
### STORAGE

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

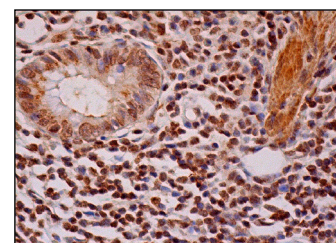
### RESEARCH USE

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

### DATA



FKBP51 (F-14): sc-11518. Western blot analysis of FKBP51 expression in non-transfected: sc-117752 (A) and human FKBP51 transfected: sc-111980 (B) 293T whole cell lysates.



FKBP51 (F-14): sc-11518. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing nuclear and cytoplasmic staining of glandular cells and nuclear staining of lymphoid cells.

### SELECT PRODUCT CITATIONS

- Nuber, U.A., et al. 2005. Up-regulation of glucocorticoid-regulated genes in a mouse model of Rett syndrome. *Hum. Mol. Genet.* 14: 2247-2256.
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- Stavreva, D.A., et al. 2009. Ultradian hormone stimulation induces glucocorticoid receptor-mediated pulses of gene transcription. *Nat. Cell Biol.* 11: 1093-1102.
- Wolf, I.M., et al. 2009. Targeted ablation reveals a novel role of FKBP52 in gene-specific regulation of glucocorticoid receptor transcriptional activity. *J. Steroid Biochem. Mol. Biol.* 113: 36-45.
- Touma, C., et al. 2011. FK506 binding protein 5 shapes stress responsiveness: modulation of neuroendocrine reactivity and coping behavior. *Biol. Psychiatry* 15: 928-936.
- Füchsl, A.M., et al. 2013. Mechanisms underlying the increased plasma ACTH levels in chronic psychosocially stressed male mice. *PLoS ONE* 8: e84161.
- Hinds, T.D., et al. 2014. Analysis of FK506, timcodar (VX-853) and FKBP51 and FKBP52 chaperones in control of glucocorticoid receptor activity and phosphorylation. *Pharmacol. Res. Perspect.* 2: e00076.
- Stechschulte, L.A., et al. 2014. FKBP51 reciprocally regulates GR $\alpha$  and PPAR $\gamma$  activation via the Akt-p38 pathway. *Mol. Endocrinol.* 28: 1254-1264.



Try **FKBP51 (D-4): sc-271547**, our highly recommended monoclonal alternative to FKBP51 (F-14).