

# FKBP51 (M-18): sc-11519

## 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 12 kDa 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 with molecular masses of 51 kDa and 52 kDa, respectively. 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 FKBP59 or heat shock protein 56, is expressed in a variety of tissues and can also associate with the 90 kDa heat shock protein (Hsp90) in mature steroid receptor complexes.

## REFERENCES

1. Liu, J., et al. 1991. Calcineurin is a common target of cyclophilin-cyclosporin A and FKBP-FK506 complexes. *Cell* 66: 807-815.
2. Yem, A.W., et al. 1992. The Hsp56 component of steroid receptor complexes binds to immobilized FK506 and shows homology to FKBP-12 and FKBP-13. *J. Biol. Chem.* 267: 2868-2871.
3. Peattie, D.A., et al. 1992. Expression and characterization of human FKBP52, an immunophilin that associates with the 90 kDa heat shock protein and is a component of steroid receptor complexes. *Proc. Natl. Acad. Sci. USA* 89: 10974-10978.
4. Bram, R.J., et al. 1993. Identification of the immunophilins capable of mediating inhibition of signal transduction by cyclosporin A and FK506: roles of calcineurin binding and cellular location. *Mol. Cell Biol.* 13: 4760-4769.

## CHROMOSOMAL LOCATION

Genetic locus: FKBP5 (human) mapping to 6p21.31; Fkbp5 (mouse) mapping to 17 13.0 cM.

## SOURCE

FKBP51 (M-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping at 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-11519 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## STORAGE

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

## APPLICATIONS

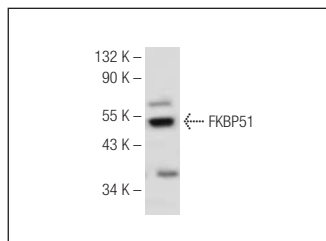
FKBP51 (M-18) is recommended for detection of FKBP51 of mouse and rat origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

Suitable for use as control antibody for FKBP51 siRNA (m): sc-35381, FKBP51 shRNA Plasmid (m): sc-35381-SH 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.

## DATA



FKBP51 (M-18): sc-11519. Western blot analysis of FKBP51 expression in mouse thymus tissue extract.

## RESEARCH USE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.