

FKBP51 (m): 293T Lysate: sc-120280

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 β -type I receptor, where it stabilizes the inactive conformation of the receptor and blocks the activation of the TGF β 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 (HSP 90) 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. 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.
3. 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.
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.
5. Baughman, G., et al. 1995. FKBP51, a novel T-cell-specific immunophilin capable of calcineurin inhibition. *Mol. Cell. Biol.* 15: 4395-4402.
6. Okadome, T., et al. 1996. Characterization of the interaction of FKBP12 with the transforming growth factor- β type I receptor *in vivo*. *J. Biol. Chem.* 271: 21687-21690.
7. Baughman, G., et al. 1997. Tissue distribution and abundance of human FKBP51, and FK506-binding protein that can mediate calcineurin inhibition. *Biochem. Biophys. Res. Commun.* 232: 437-443.
8. Gold, B.G., et al. 1999. Immunophilin FK506-binding protein 52 (not FK506-binding protein 12) mediates the neurotrophic action of FK506. *J. Pharmacol. Exp. Ther.* 289:1202-1210.

CHROMOSOMAL LOCATION

Genetic locus: Fkbp5 (mouse) mapping to 17 A3.3.

PRODUCT

FKBP51 (m): 293T Lysate represents a lysate of mouse FKBP51 transfected 293T cells and is provided as 100 μ g protein in 200 μ l SDS-PAGE buffer.

APPLICATIONS

FKBP51 (m): 293T Lysate is suitable as a Western Blotting positive control for mouse reactive FKBP51 antibodies. Recommended use: 10-20 μ l per lane.

Control 293T Lysate: sc-117752 is available as a Western Blotting negative control lysate derived from non-transfected 293T cells.

STORAGE

Store at -20° C. Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

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