

Product Information



FKBP52 Monoclonal Antibody (Clone Hi52C)

Item No. 10011442

Contents:	This vial contains protein G-purified IgG at a concentration of 1 mg/ml in PBS buffer, containing 0.09% sodium azide and 50% glycerol.
Synonym:	FK506-Binding Protein 52
Antigen:	Synthetic peptide corresponding to the residues of human FKBP52
Host:	Mouse, clone Hi52C
Isotype:	IgG ₁
Cross Reactivity:	(+) Canine, hamster, human, mouse, and rat FKBP52. Detects a ~52 kDa protein representing FKBP52 in HeLa cell lysate. Also detects FKBP52 in whole tissue extracts from rat kidney and rat and mouse testes. Heavy chain migrates close to FKBP52 on SDS-PAGE.
Stability:	≥1 year at -20°C
Applications:	Western blot (WB), immunoprecipitation, and immunohistochemistry (paraffin embedded sections). ¹ The recommended starting dilution for WB is 1:2,000; use 5 µg with 10-20 µl of Protein A beads for immunoprecipitation; the recommended starting dilution for IHC is 1:250. Optimal working dilutions for other applications should be determined empirically.

Hsp90 is crucial to cellular signaling by its regulation of the folding, activity, and stability of a wide range of client proteins. These client protein complexes may also contain one or more co-chaperones.¹ One class of Hsp90-binding co-chaperone is composed of proteins with a characteristic tetratricopeptide repeat (TPR) domain that forms an Hsp90 binding site. Among the TRP co-chaperones of Hsp90 are Hop/Sti1, protein phosphatase PP5, and members of both the FK506- and cyclosporin A-binding families of immunophilins.²

FK506-binding protein 51 (FKBP51) and FKBP52 are large molecular weight immunophilins that are part of the mature glucocorticoid receptor (GR) heterocomplex.³ The N-terminal domain of each protein binds FK506 and has peptidyl-prolyl isomerase (PPlase) activity that converts prolyl peptide bonds within target proteins from *cis*- to *trans*-proline. The C-terminal domains contain the TRP repeats involved in protein-protein interactions with Hsp40.⁴

Although FKBP52 and FKBP51 share ~75% sequence similarity, they affect hormone binding by the glucocorticoid receptor in opposing manners and have different Hsp90-binding characteristics.^{2,5} Also, whereas FKBP51 typically has a role with the progesterone receptor, FKBP52 has been found to be linked to the progesterone, androgen, and glucocorticoid receptors.⁵

References

- Cheung-Flynn, J., Roberts, P.J., Riggs, D.L., *et al.* C-terminal sequences outside the tetratricopeptide repeat domain of FKBP51 and FKBP52 cause differential binding to Hsp90. *J. Biol. Chem.* **278**(19), 17388-17394 (2003).
- Davies, T.H., Ning, Y.-M., and Sánchez, E.R. A new first step in activation of steroid receptors. Hormone-induced switching of FKBP51 and FKBP52 immunophilins. *J. Biol. Chem.* **277**(7), 4597-4600 (2002).
- Wu, B., Li, P., Liu, Y., *et al.* 3D structure of human FK506-binding protein 52: Implications for the assembly of the glucocorticoid receptor/Hsp90/immunophilin heterocomplex. *J. Biol. Chem.* **101**(22), 8348-8353 (2004).
- Denny, W.B., Prapapanich, V., Smith, D.F., *et al.* Structure-function analysis of squirrel monkey FK506-binding protein 51, a potent inhibitor of glucocorticoid receptor activity. *Endocrinology* **146**(7), 3194-3201 (2005).
- Cox, M.B., Riggs, D.L., Hessling, M., *et al.* FK506-binding protein 52 phosphorylation: A potential mechanism for regulating steroid hormone receptor activity. *Mol. Endocrinol.* **21**(12), 2956-2967 (2007).

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WARNING: THIS PRODUCT IS NOT FOR HUMAN OR ANIMAL DISEASE DIAGNOSIS OR THERAPEUTIC DRUG USE.

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