PRODUCT INFORMATION

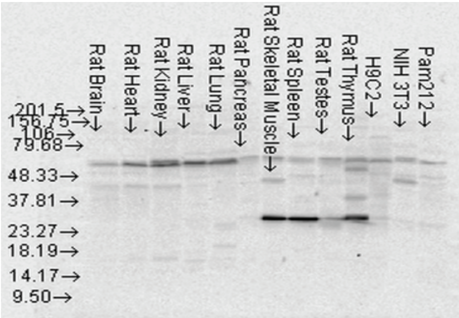
FKBP52 Monoclonal Antibody (Clone Hi52C)

Item No. 10011442

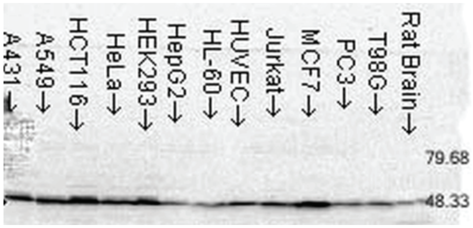
Overview and Properties

Contents:	This vial contains 25 or 100 µg of protein G-affinity purified monoclonal antibody.
Synonym:	FK-506 Binding Protein 52
Immunogen:	Synthetic peptide corresponding to the residues of human FKBP52
Species Reactivity:	(+) Human, dog, hamster, mouse, rat; other species not tested
Uniprot No.:	Q02790
Form:	Liquid
Storage:	-20°C (as supplied)
Stability:	≥1 year
Storage Buffer:	PBS with 50% glycerol and 0.09% sodium azide
Concentration:	1 mg/ml
Clone:	Hi52c
Host:	Mouse
Isotype:	IgG1
Applications:	Immunocytochemistry (ICC), Immunofluorescence (IF), Immunohistochemistry (IHC), Immunoprecipitation (IP), and Western blot (WB); the recommended starting dilution is 1:1,000 for ICC and IF, 1:250 for IHC, and 1:2,000 for WB; the recommended starting concentration for IP is 5 µg.Other applications were not tested, therefore optimal working concentration/dilution should be determined empirically.

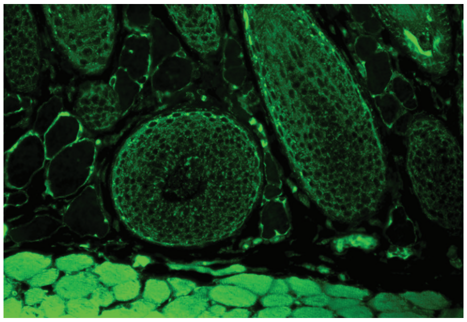
Images



Western blot analysis of rat brain, heart, kidney, liver, Pancreas, skeletal muscle, spleen, testes, and thymus cell lysates showing detection of FKBP52 protein using FKBP52 Monoclonal Antibody (Clone Hi52C).



Western blot analysis of human cell lysates showing detection of FKBP52 protein using FKBP52 Monoclonal Antibody (Clone Hi52C).



Immunohistochemical labeling of mouse backskin cells. Cells were fixed with Bouin's fixative and embedded in paraffin and incubated with FKBP52 Monoclonal Antibody (Clone Hi52C) at a 1:100 dilution for one hour at room temperature. Then cells were incubated with FITC Goat Anti-Mouse (green) at a dilution of 1:50 for one hour at room temperature. Positive staining was localized to the epidermis.

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Description

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.[3,5] 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

1. 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).
2. 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).
3. 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 hetrocomplex. *J. Biol. Chem.* **101(22)**, 8348-8353 (2004).
4. 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).
5. 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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