

Anti-FKBP51, Hi51B

Catalog# SMC-138 C/D
Size: 25/100µl

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This product is for *in vitro* research use only and is not intended for use in humans or animals

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Product	Mouse Anti-FKBP51 antibody, monoclonal
Clone	Hi51B
Immunogen	Synthetic peptide corresponding to the residues of human FKBP51
Host and Subclass	Mouse, IgG
Cited Applications	WB
Specificity	Detects an ~51 kDa protein representing FKBP51 in HeLa cell lysate. Also detects FKBP51 in whole tissue extracts from rat kidney and rat and mouse testes.
Species cross-reactivity	Canine, Hamster, Human, Mouse, Rat, Rabbit
Format	Mouse epitope affinity purified IgG in PBS containing 50% glycerol and 0.09% sodium azide
Concentration and working dilution	1.0 µg/mL; 1:2000 dilution recommended for WB
Storage and stability	-20°C; 1 year+; shipped on cold packs or ambient

Scientific Background

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 cochaperones (1). One class of Hsp90-binding cochaperone is composed of proteins with a characteristic tetratricopeptide repeat (TPR) domain that forms an Hsp90 binding site. Among the TPR cochaperones 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 (PPIase) activity that converts prolyl peptide bonds within target proteins from cis- to trans- proline. The C-terminal domains contain the TPR repeats involved in protein-protein interactions with the Hsp90 (4). Although FKBP52 and FKBP51 share ~75% sequence similarity, they affect hormone binding by glucocorticoid receptor in opposing manners and have different Hsp90-binding characteristics (3).

FK506 binding protein 51 kDa (FKBP51 or otherwise referred to as FKBP54) has been identified as a progestin-inducible gene. This protein is predominantly expressed in murine T cells but in humans, it is abundantly expressed in numerous tissues at levels many times higher than FKBP12. The FKBP51 gene is known to be induced by glucocorticoids (5).

Selected References

1. Cheung-Flynn J., Roberts P.J., Riggs D.L., and Smith D.F. (2003) *J. Biol. Chem.* 278(19): 17388-17394.
2. Davies T.H., Ning Y.N., and Sanchez E.R. (2002) *J Biol. Chem.* 277 (7): 4597-4600.
3. Wu B. *et al.* (2004) *Proc. Natl. Acad. Sci. USA.* 101(22): 8348-8353.
4. Denny W.B., Prapapanich V., Smith D.F., and Scammell J.G. (2005) *Endocrinology* 146(7): 3194-3201.
5. Hubler T.R. *et al.* (2003) *Endocrinology* 144(6): 2380-2387.

Certificate of Analysis

A 1:2000 dilution of SMC-138 was sufficient for detection of FKBP51 in ~50µg total protein using western blot analysis.

Material Safety Data Sheet

Anti-FKBP51 (Monoclonal Antibody) SMC-138

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The below information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. StressMarq shall not be held liable for any damage resulting from handling or from contact with the above product. See the Technical Specification, Packing Slip, Invoice, and Product Catalogue for additional terms and conditions of sale.

Hazardous Ingredients

The physical, chemical and toxicological properties of these components have not been fully investigated. It is recommended that all laboratory personnel follow standard laboratory safety procedures when handling this product. Safety procedures should include wearing OSHA approved safety glasses, gloves and protective clothing. Direct physical contact with this product should be avoided.

<u>Known Hazardous Components</u>	<u>CAS Number</u>	<u>Percent</u>
Sodium Azide	26628-22-8	0.09

Physical Data

This product consists of mouse immunoglobulin in PBS in 50% glycerol containing 0.09% azide shipped on gel packs. The physical properties of this product have not been investigated thoroughly.

Fire and Explosion Hazard and Reactivity Data

NOT APPLICABLE

Toxicological Properties

May be harmful by inhalation, ingestion, or skin absorption. The toxicological properties of this product have not been investigated thoroughly. Exercise due caution.

Preventative Measures

Wear chemical safety goggles and compatible chemical-resistant gloves. Avoid inhalation, contact with eyes, skin or clothing.

Spill and Leak Procedures

Observe all federal, state and local environmental regulations.

- Wear protective equipment.
- Absorb on sand or vermiculite and place in closed containers for disposal.
- Dispose or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

First Aid Measures

- If swallowed, wash out mouth with water, provided person is conscious. Call a physician.
- In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. If a rash or other irritation develops, call a physician.
- If inhaled, remove to fresh air. If breathing becomes difficult, call a physician.
- In case of eye contact, flush with copious amounts of water for at least 15 minutes while separating the eyelids with fingers. Call a physician.

Authorized: StressMarq Biosciences Inc.
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