

FKBP12.6 (H-72): sc-98742

BACKGROUND

Immunophilins are a highly conserved family of *cis-trans* peptidyl-prolyl isomerases which bind to and mediate the effects of immunosuppressive drugs such as Cyclosporin, FK506 and Rapamycin. FKBP12.6, also known as FK506-binding protein 1B, is a 108 amino acid immunophilin belonging to the FKBP-type PPIase family. Subcellularly localized to the cytoplasm, FKBP12.6 binds to RyR in cardiac muscle sarcoplasmic reticulum and possibly plays a unique physiological role in excitation-contraction coupling in cardiac muscle. FKBP12.6 also catalyzes the *cis-trans* isomerization of proline imidic peptide bonds in oligopeptides. Ubiquitously expressed, FKBP12.6 is found at highest levels in brain and thymus. FKBP12.6 is expressed as two isoforms produced by alternative splicing.

REFERENCES

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2. George, C.H., et al. 2003. *In situ* modulation of the human cardiac ryanodine receptor (hRyR2) by FKBP12.6. *Biochem. J.* 370: 579-589.
3. George, C.H., et al. 2003. Dysregulated ryanodine receptors mediate cellular toxicity: restoration of normal phenotype by FKBP12.6. *J. Biol. Chem.* 278: 28856-28864.
4. Masumiya, H., et al. 2003. Localization of the 12.6-kDa FK506-binding protein (FKBP12.6) binding site to the NH₂-terminal domain of the cardiac Ca²⁺ release channel (ryanodine receptor). *J. Biol. Chem.* 278: 3786-3792.
5. Nakazawa, T., et al. 2005. Genomic organization, chromosomal localization, and promoter of human gene for FK506-binding protein 12.6. *Gene* 360: 55-64.
6. Zissimopoulos, S., et al. 2005. Interaction of FKBP12.6 with the cardiac ryanodine receptor C-terminal domain. *J. Biol. Chem.* 280: 5475-5485.
7. Hunt, D.J., et al. 2007. K201 (JTV519) suppresses spontaneous Ca²⁺ release and [3H]ryanodine binding to RyR2 irrespective of FKBP12.6 association. *Biochem. J.* 404: 431-438.
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CHROMOSOMAL LOCATION

Genetic locus: FKBP1B (human) mapping to 2p23.3; Fkbp1b (mouse) mapping to 12 A1.1.

SOURCE

FKBP12.6 (H-72) is a rabbit polyclonal antibody raised against amino acids 38-108 mapping at the C-terminus of FKBP12.6 of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

APPLICATIONS

FKBP12.6 (H-72) is recommended for detection of FKBP12.6 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

FKBP12.6 (H-72) is also recommended for detection of FKBP12.6 in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for FKBP12.6 siRNA (h): sc-42891, FKBP12.6 siRNA (m): sc-42892, FKBP12.6 shRNA Plasmid (h): sc-42891-SH, FKBP12.6 shRNA Plasmid (m): sc-42892-SH, FKBP12.6 shRNA (h) Lentiviral Particles: sc-42891-V and FKBP12.6 shRNA (m) Lentiviral Particles: sc-42892-V.

Molecular Weight of FKBP12.6: 12 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

SELECT PRODUCT CITATIONS

1. Gant, J.C., et al. 2011. Disrupting function of FK506-binding protein 1b/12.6 induces the Ca²⁺-dysregulation aging phenotype in hippocampal neurons. *J. Neurosci.* 31: 1693-1703.

STORAGE

Store at 4° C, **DO NOT FREEZE**. Stable for one year from the date of shipment. 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 or our catalog for detailed protocols and support products.


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Try **FKBP12.6 (H-8): sc-376135**, our highly recommended monoclonal alternative to FKBP12.6 (H-72).