SANTA CRUZ BIOTECHNOLOGY, INC.

FKBP12/12.6 (N-15): sc-131521

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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, FK-506 and Rapamycin. The prototypic member of the family, FKBP12, was originally identified as a target of FK-506 and Rapamycin activity. FKBP12 is an abundant, evolutionarily conserved cytoplasmic protein. Although the molecular role of FKBP12 activity is not well understood, the protein has been implicated as a regulator of a diverse array of cellular processes, including T cell activation, entry into the cell cycle and intracellular calcium release. Interestingly, FKBP12 has been shown to associate with the intracellular cytoplasmic domain of the type I TGFβ receptor. This association is constitutive and not dependent on the activation of the receptor. FKBP12.6, also known as FK-506-binding protein 1B, is a 108 amino acid immunophilin that is highly similar to FKBP12. 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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4. Masumiya, H., et al. 2003. Localization of the 12.6-kDa FK-506-binding protein (FKBP12.6) binding site to the NH_2-terminal domain of the cardiac Ca^{2+} release channel (ryanodine receptor). J. Biol. Chem. 278: 3786-3792.
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8. Xiao, J., et al. 2007. Removal of FKBP12.6 does not alter the conductance and activation of the cardiac ryanodine receptor or the susceptibility to stress-induced ventricular arrhythmias. J. Biol. Chem. 282: 34828-34838.

CHROMOSOMAL LOCATION

Genetic locus: FKBP1B (human) mapping to 2p23.3, FKBP1A (human) mapping to 20p13; Fkbp1b (mouse) mapping to 12 A1.1, Fkbp1a (mouse) mapping to 2 G3.

SOURCE

FKBP12/12.6 (N-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping at the N-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.

Blocking peptide available for competition studies, sc-131521 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

FKBP12/12.6 (N-15) is recommended for detection of FKBP12.6 isoforms 1 and 2 and FKBP12 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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); non cross-reactive with other FKBP family members.

FKBP12/12.6 (N-15) is also recommended for detection of FKBP12.6 isoforms 1 and 2 and FKBP12 in additional species, including canine, bovine, porcine and avian.

Molecular Weight of FKBP12/12.6: 12 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

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.