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FKBP12 Antibody

Catalog # ASC11798

Product Information

Application	WB, IF, ICC, E
Primary Accession	P62942
Other Accession	NP_463460, 17149836
Reactivity	Human, Mouse, Rat
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	11951
Concentration (mg/ml)	1 mg/mL
Conjugate	Unconjugated
Application Notes	FKBP12 antibody can be used for detection of FKBP12 by Western blot at 1 - 2 g/ml. Antibody can also be used for Immunocytochemistry at 5 g/mL. For Immunoflorescence start at 20 g/mL.

Additional Information

Gene ID	2280
Other Names	Peptidyl-prolyl cis-trans isomerase FKBP1A, PPIase FKBP1A, 5.2.1.8, 12 kDa FK506-binding protein, 12 kDa FKBP, FKBP-12, Calstabin-1, FK506-binding protein 1A, FKBP-1A, Immunophilin FKBP12, Rotamase, FKBP1A, FKBP1, FKBP12
Target/Specificity	FKBP1A; FKBP12 antibody is human, mouse and rat reactive.
Reconstitution & Storage	FKBP12 antibody can be stored at 4℃ for three months and -20℃, stable for up to one year.
Precautions	FKBP12 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	FKBP1A
Synonyms	FKBP1, FKBP12
Function	Keeps in an inactive conformation TGFBR1, the TGF-beta type I serine/threonine kinase receptor, preventing TGF-beta receptor activation in absence of ligand. Recruits SMAD7 to ACVR1B which prevents the association of SMAD2 and SMAD3 with the activin receptor complex, thereby blocking the activin signal. May modulate the RYR1 calcium channel activity. PPIases accelerate the folding of proteins. It catalyzes the cis-trans isomerization of proline imidic peptide bonds in oligopeptides.

Cellular Location	Cytoplasm, cytosol. Sarcoplasmic reticulum membrane {ECO:0000250|UniProtKB:P62943}; Peripheral membrane protein {ECO:0000250|UniProtKB:P62943}; Cytoplasmic side {ECO:0000250|UniProtKB:P62943}

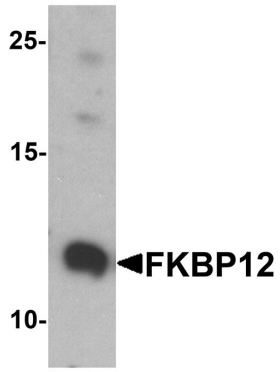
Background

FKBP, or FK506 binding protein, is a family of proteins that have prolyl isomerase activity and are related to the cyclophilins in function (1). FKBP12, also called FKBP1, was originally identified as a target of FK506 and rapamycin activity and catalyzes the transition between cis and transproline residues critical for proper folding of proteins (2). FKBP12 is an abundant, evolutionarily conserved cytoplasmic protein that is an important regulator of diverse array of cellular processes including T cell activation, entry into the cell cycle and intracellular calcium release (3-5).

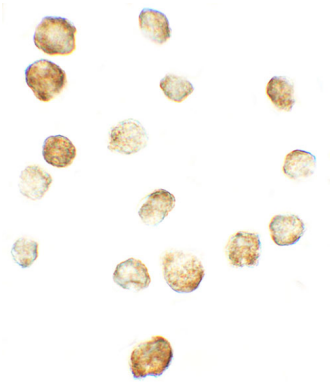
References

Siekierka JJ, Hung SH, Poe M, et al. A cytosolic binding protein for the immunosuppressant FK506 has peptidyl-prolyl isomerase activity but is distinct from cyclophilin. Nature 1989; 341:755-7.
Michnick SW, Rosen MK, Wandless TJ, et al. Solution structure of FKBP, a rotamase enzyme and receptor for FK506 and rapamycin. Science 1991; 252:836-9.
Wang T, Donahoe PK, and Zervos AS. Specific interaction of type I receptors of the TGF-beta family with the immunophilin FKBP-12. Science 1994; 265:674-6.
Wen H, Kang S, Song Y, et al. Characterization of the binding sites for the interactions between FKBP12 and intracellular calcium release channels. Arch. Biochem. Biophys. 2012; 517:37-42.

Images

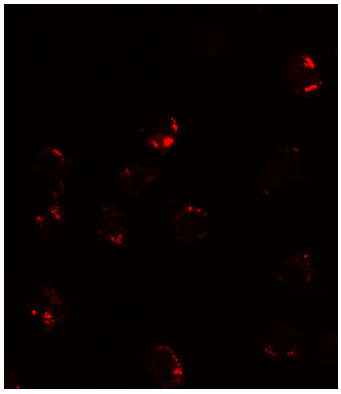


Western blot analysis of FKBP12 in A431 cell lysate with FKBP12 antibody at 1 µg/ml.



Immunocytochemistry of FKBP12 in A431 cells with FKBP12 antibody at 5 µg/mL.

Immunofluorescence of FKBP12 in A431 cells with FKBP12 antibody at 20 µg/mL.



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