De-Novo Cloning of FKBP23 cDNA from Pig ER Using Nested PCR[§]

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FK506 binding proteins (FKBPs) in cells are known as immunophilins. We have identified and characterized a cDNA encoding an endoplasmic reticulum (ER) immunophilin, FKBP23, from pig liver by nested PCR. The predicted amino acid sequence of pig FKBP23 shows high identity to those of human FKBP23 and mouse FKBP23. It possesses a conserved FKBP-type peptidylprolyl *cis-trans* isomerase (PPIase) domain and EF-hand domain. We constructed a plasmid to express pFKBP23. Furthermore, we proved that the recombinant pFKBP23 can specifically bind to natural BiP, the main protein of the molecular chaperone Hsp70 in ER lumen; the binding is interrelated with the Ca^{2+} concentration just as the FKBP23 from mice.

Key words: FKBP23, Nested PCR, Peptidylprolyl *cis-trans* Isomerase