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CanonEOSDigitalSolutionDiskver171WindowsSerialKey 0.15 with same amount of protein Reduction of enzyme activity Deletion of putative chaperone domain of PapD, YfaS and SycN reduced enzymatic activity of the proteins and their ability to stimulate transcription. These data indicate that the proteins function in protein folding (Table 4), although their molecular mechanisms of action remains to be determined. Effects of Rv2667c on protein folding PapB and PapD can be folded as inclusion bodies when not supplemented with glutathione. Addition of Rv2667c improved the solubility of PapD. PapB and PapD lack a typical chaperone domain, which might be involved in the function of Rv2667c. Inclusion body formation of PapD is dependent on the ability of protein to fold. Therefore, we wanted to determine whether the presence of Rv2667c during protein folding could improve PapD folding and subsequently reduce the formation of inclusion bodies. We used low temperatures to prevent protein aggregation and to examine the effect of Rv2667c on PapD folding. Glutathione-induced aggregation of the protein was prevented. However, the inclusion body formation was not reduced even after adding Rv2667c to the protein at 42˚C (data not shown). During protein folding, some proteins aggregated in the solution rather than in the inclusion bodies. We determined the fraction of protein aggregated in the solution by measuring the amount of protein precipitated by trichloroacetic acid. Rv2667c reduced the formation of protein aggregates in solution when the protein was unfolded. Therefore, we propose that Rv2667c functions in a manner similar to the CcmE protein. The CcmE protein is a small soluble protein that

functions as a specific chaperone for the folding of SecYEG (26,27). The effect of Rv2667c was more pronounced on the conformational stability of PapD than on the solubility of PapD. This observation could be explained by a change in the structure or hydrophobicity of PapD by Rv2667c. The function of Rv2667c as a molecular chaperone for PapB or PapD may be related to the observed improvement of solubility of these proteins by Rv2667c. Rv2667c modulates the transcription