

CHAPTER 7

Summary

The comparative proteomic profiles of proteins in 5 strains of *S. suis* serotypes 2 and 14 were analyzed using the isolates from 3 sources; diseased pig (P 1/7), healthy pigs (TSK 10.4, TD 2.2), human patients (LPH 210/53, MNCM 07). The results indicated that 261 proteins of all *S. suis* strains were differentially expressed in mouse macrophage cell line RAW 264.7 and 118 proteins of all *S. suis* strains were differentially expressed in human macrophage cell line U 937. Each protein of *S. suis* strains have a specific function. Proteins relating to stress response were differentially expressed in the highest proportion (16%) when *S. suis* exposed to the intra-mouse macrophage condition. Whereas among the proteins differentially expressed during exposure to human macrophage, proteins involved in translation were the biggest group (48%). Other proteins are involved in response to stress (16%, 4%), or in transport (15%, 7%), transcription (15%, 4%) and other metabolism (25%, 23%). These results indicated that *S. suis* differentially expressed proteins in each macrophage cell lines.

The distribution of virulence associated genes of *S. suis*, which are the suilysin (*sly*), the extracellular protein factor (*epf*) and the muramidase-released protein (*mrp*) in 50 isolates of *S. suis* was performed by multiplex PCR. The results showed that 5 genotypes of these genes were detected in this study, namely *sly*⁺/*epf*⁺/*mrp*⁺ (14%), *sly*⁺/*epf*⁻/*mrp*⁻ (22%), *sly*⁻/*epf*⁻/*mrp*⁺ (42%), *sly*⁺/*epf*⁻/*mrp*⁺ (6%) and *sly*⁻/*epf*⁻/*mrp*⁻ (16%). These results indicated that the genotype *sly*⁻/*epf*⁻/*mrp*⁺ is the most prevalent genotype of the isolates from the northern part of Thailand.