Protein identification and quantification in the different sex of *Schistosoma mekongi* adult worm

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Mekong Schistosomiasis is an endemic disease in south-east Asia caused by a trematode *Schistosoma mekongi*. About 70,000 people are estimated to be at risk of infection in Laos and Cambodia. Schistosoma egg is a major role to cause the physio-pathologies including inflammation, granuloma formation, and organism dysfunction. To inhibit schistosoma egg production, differentially expressed proteins between the male and female worms need to be explored. The finding may provide an importance clue to the parasite maturation and egg production. Moreover, the female specific proteins are possible to be a good target for drug discovery. In this study, 2-DE was employed to separate the proteins from adult male and female worms and visualized by Colloidal Coomassie Blue G-250. A total of 37 proteins showed significant difference of expression between male and female worms. There were 19 up-regulated proteins in female worm for example phosphoenolpyruvate carboxykinase, cathepsin B and protein disulfide isomerase. On the other hand, 18 proteins were down-regulated in female such as glycerol 3-phosphate dehydrogenase, TNF receptor-associated protein 1. Interestingly, up-regulated proteins are involved in hemoglobin digestion including cathepsin B and protein disulfide isomerase. The hemoglobin is necessary for iron supplement, an essential ion for egg production and embryogenesis. This study presented the information of adult male and female *S. mekongi* proteomes for better understanding of schistosoma biology and facilitate the development of novel compound to inhibit the *S. mekongi* egg formation minimizing pathology.

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