

## ABSTRACT

This current study was aimed to identify the tegumental protein of the *O. viverrini* as potential vaccine candidate, as well as to investigate the immune response of susceptible and non-susceptible hosts against tegumental protein. Sequential solubilization to increase the degree of proteins solubility using Tris, urea and SDS-Triton X-100 was done prior to SDS-PAGE and western blot analysis. In SDS-PAGE analysis, protein fractions ranging 42 to 175 kDa were observed from Tris and urea solubilization while fractions SDS-Triton X-100 solubilization ranged from 29 to 130 kDa. Nevertheless, the fractions ranging from 29 to 175 kDa were separated from somatic extract. Common protein fractions at 95 kDa showed in all solubilization procedures. Two fractions from urea solubilization were observed at below 42 kDa, and a fraction at 42 to 51 kDa was observed from SDS-Triton X-100 solubilization. In western blot analysis, strong reaction was observed with the fraction at 95 kDa from Tris, urea, and SDS-Triton X-100 solubilization using *Ov*-infected mouse sera. The mouse sera also reacted with fractions at 51 to 62 kDa from SDS-Triton X-100 extract. In contrast, the western blot of infected hamsters sera against tegument and somatic extracts showed weak reactions at 95 to 175 kDa. Immunogenic proteins of *O. viverrini* were investigated from somatic and tegumental extracts, and supported with other findings, differential of immune response between non susceptible and susceptible hosts were observed in the results. Therefore, this study may provide new insight to develop a vaccine.

*Keywords:* *Opisthorchis viverrini*, tegument, immune response, vaccine, non-susceptible and susceptible hosts.