



Cloning and expression of the 4D8 gene from *Hyalomma asiaticum* tick

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ABSTRACT. *Hyalomma asiaticum* tick, an important ectozoic parasite causes tickle, pain, anemia, weight loss, and paralysis in its hosts, which include humans, cattle, sheep, horses, camels, and hares. The 4D8 gene can be a potential vaccine candidate antigen for *H. asiaticum*. In the present study, we cloned and expressed the 4D8 gene of *H. asiaticum* from Xinjiang Province. Primers were designed according to the *H. asiaticum* tick 4D8 gene sequence available in GenBank. The gene was amplified by reverse transcription-polymerase chain reaction and the fragments were subcloned into the prokaryotic expression vector pET30a and the recombinant vector pET30a-4D8 was constructed. The expressed recombinant protein was purified and its biological activity was investigated by western blot. Results revealed that the recombinant protein was a biologically active fusion protein with a molecular weight of 20 kDa. The purified 4D8 protein would provide a strong foundation for further studies on this protein.

Key words: *Hyalomma asiaticum*; 4D8; Clone