Cloning and expression of outer membrane protein 31 (Omp31) *Brucella melitensis Rev1*

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Abstract

Brucellosis is a well-known infection among domestic animals caused by Brucella bacterium. Omp31 is outer membrane proteins that play important role in simulate $CD4^+$ T and $CD8^+$ T cells. In current study, cloning, expression and also phylogenic analysis of Omp31 gene as a candidate for designing subunit vaccine against Brucella was investigated. Amplifying was performed using specific primers. Cloning of this gene was performed using pMB57R/T vector in TOP10F`strain of *E.coli*. Also, pET32a vector used for expression. Omp31 gene with 723 bp was amplified successfully. It , then, was coloned using TA cloning approach within cloning vector. Expression of this gene has done in pET32a vector by inducing IPTG. Results confirmed with sequencing and SDS-PAGE. According to this result, we can propose this gene as a candidate for designing subunit vaccine against Brucella in future study.

Key words: Brucella, Omp31, Cloning, Expression

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