Expression of a Rabies Virus Specific Antigen by Cloning the Glycoprotein Gene into *Escherichia con* Expression System

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Rabies is an infectious disease characterized by dysfunction of the central nervous system caused by Lyssavirus of family Rhabdoviridae. Detection of rabies antibodies are used to confirm if people have been successfully immunized. Currently, these detection methods require lots of expertise and are generally carried out in reference laboratories at a high cost. Therefore, it is vital to develop and standardize simple techniques such as Enzyme Linked Immunosorbent Assay (ELISA) for determining the level of antibodies against rabies virus at a lower cost. Hence, the aim of the present study was to clone rabies virus specific glycoprotein gene into bacterial expression vector for the production of recombinant protein. Initial attempts were made to isolate plasmid DNA of pET-28a (+) vector and pcDNA3. -RVG recombinant plasmid containing previously cloned Rabies Virus Glycoprotein gene (RVG). Both plasmids were successfully digested with BamHI and XhoI restriction enzymes. The purified Rabies Virus Glycoprotein gene was cloned into pET-28a (+) bacterial expression vector. The pET-28a (+)-RVG plasmids were successfully transformed into TOPIOP competent cells through electroporation. Transformants were screened by rapid screening method. Out of 20 colonies 8 were identified as recombinants. Further screening of recombinant colonies will be carried out by digesting with restriction enzymes. Putative correct recombinant construct will be transferred into bacterial expression system for the expression.

Keywords: Rabies, Rabies virus glycoprotein gene, Cloning