

# **Characterization of the pscC (Type III secretion) gene of *Pseudomonas aeruginosa* (PA01) and assessment of immunogenicity of pscC protein in rats**

## **Abstract**

Proteins associated with the bacterial membrane can be recruited for application as antigens for the development of vaccines. This preliminary study was directed towards evaluating the antigenic properties of the *Pseudomonas aeruginosa* (PA01) pscC protein which is a component of the Type III secretion system. Gene specific primers were designed to isolate the pscC gene which was isolated, ligated onto the multiple cloning site of vector pGS21(a), cloned and expressed in *Escherichia coli* (BL21). The molecular weight of the expressed pscC protein was determined by SDS-PAGE (10% sodium dodecyl sulphate-polyacrylamide gel electrophoresis) and was found to be around 57 KDa and purified by the size exclusion chromatography. Finally, the purified pscC protein was injected subcutaneously into adult Sprague Dawley rats with a range of concentrations (50, 100 and 150 microgram per rat) respectively. Recombinant pscC antigen induced a specific humoral immune response against the antigen, which was validated by Enzyme-linked immunosorbent assay (ELISA). The results concluded that anti-pscC antibody was elicited in the animal model.