

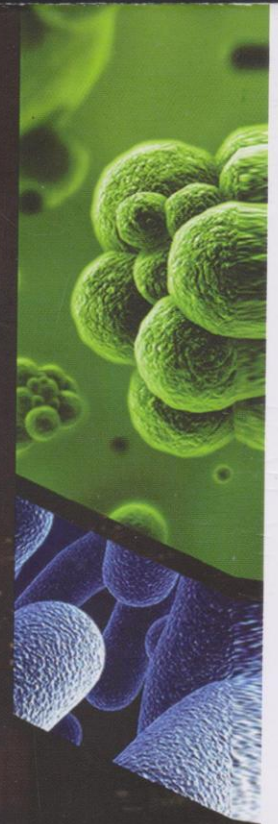


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**Pneumococcal Surface Protein A (PspA) Family Genes Identification Among
Streptococcus pneumoniae Clinical Isolates in Clinical Microbiology Laboratory,
Sanglah General Hospital, Denpasar, Bali in 2012-2016**

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Pneumococcal surface protein A (PspA) is recognized as a major *S. pneumoniae* virulence factor. PspA has function in disturbing complement deposition on the *S. pneumoniae* surface. It is a good vaccine candidate for *S. pneumoniae* infections, since PspA protein is present in all *S. pneumoniae*. There are two major alleles of PspA, PspA family 1 and 2. Molecular characterization of PspA family is needed for developing vaccine candidate. Therefore, this study aimed to identify genotypes or clades of PspA genes among *S. pneumoniae* isolated in Clinical Microbiology Laboratory, Sanglah General Hospital during 2012-2016. Twenty-three of *S. pneumoniae* clinical isolates were included in this study. PspA family 1 and 2 genes were amplified by using specific primers. The study showed that 18 of 23 isolates were positive having PspA family 1 gene, while 12 isolates were PspA family 2. This study showed that the clade that predominantly circulated was PspA family 1. However interestingly, among the PspA family genes showed differences in size. The sequencing has been conducted, and the results showed that all bands belong to PspA genes of *S. pneumoniae*. Further characterization is needed in preparing cloning these genes for PspA recombinant protein production.

Keywords : *S. pneumoniae*, PspA family 1, PspA family 2, vaccine candidate