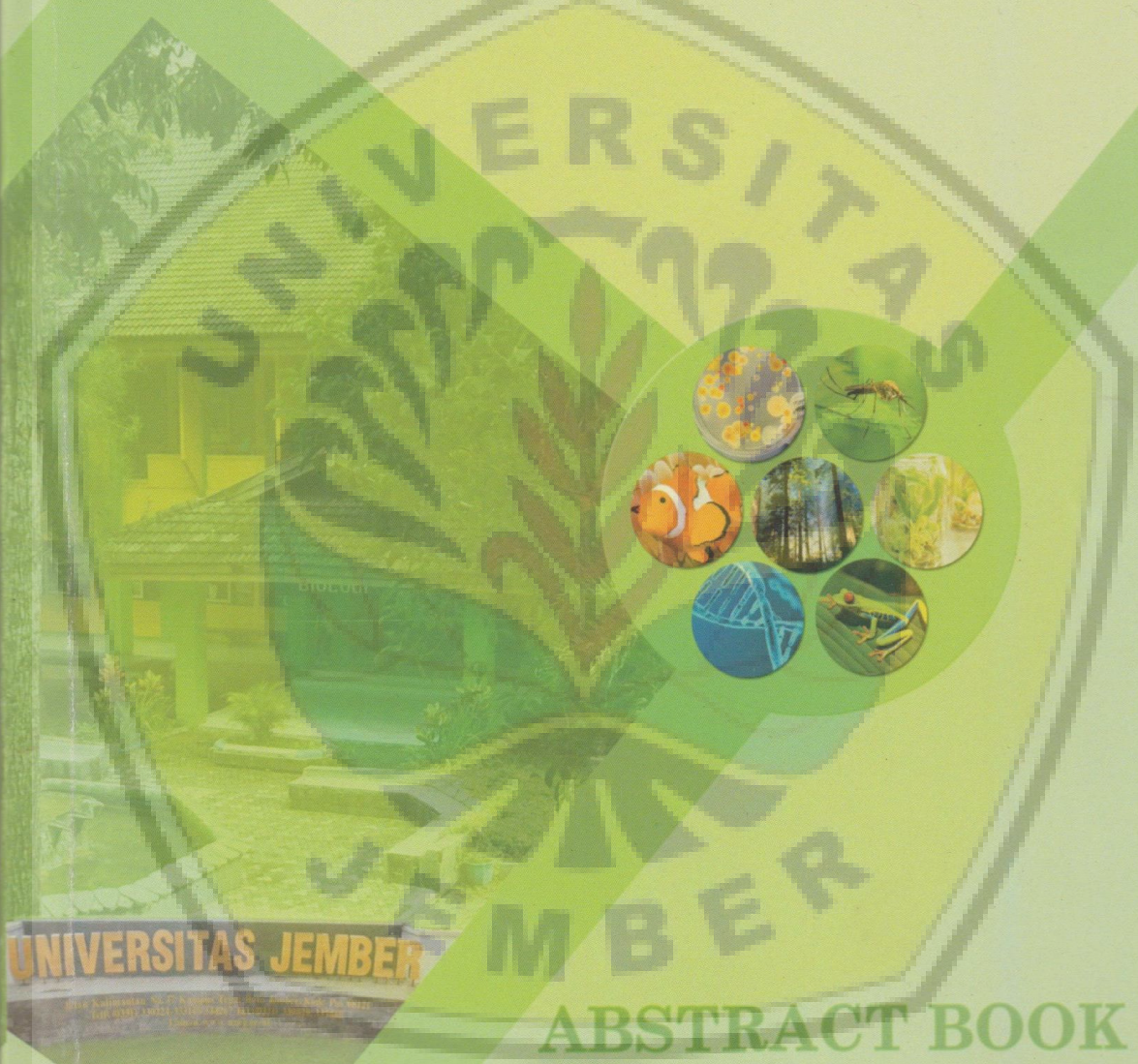


# The 2<sup>nd</sup> ICOLIB

International Conference on Life Sciences and Biotechnology  
Biology Department, Faculty of Mathematics and Natural Sciences, University of Jember  
(ICOLIB BIO-UNEJ 2017)

**Integrated Biological Sciences for Human Welfare**



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**INTRANASAL IMMUNIZATION WITH 54 KDA  
HEMAGGLUTININ PILI PROTEIN OF *Streptococcus  
pneumoniae* INCREASE EXPRESSION OF pIgR**

Diana Chusna Mufida<sup>1</sup>, Kusworini Handono<sup>2</sup>, Sumarno Reto Prawiro<sup>2</sup>, Sanarto Santoso<sup>2</sup>

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**Abstract**

*Streptococcus pneumoniae* can cause many infections like meningitis, bacteremia, otitis media and particularly pneumonia in children. Immunization is one way to prevent the spread of pneumonia and intranasal immunization is currently developed by many research. Intranasal immunization used vaccine from bacteria pili is more effective because it could prevent the attachment of bacteria on surface epithelium of respiratory track. The immunization triggers differentiation of T cell into Th1, Th2, Th17 and T reg. Th17 produce a wide variety of cytokine including IL-17A that stimulate the expression of pIgR. The aim of this study was to determine the ability of intranasal immunization with 54 kDa pili proteins of *S. pneumoniae* in stimulate the expression of pIgR through the increased of IL-17A. To achieve these objectives purified 54 kDa pili proteins is used as an antigen to immunized Wistar rats intranasal. Mucosal immune responses identified from nasal washings inspection of Wistar rats using IL-17A, and pIgR indicators. These results indicate that mice immunized with combined antigen-adjuvant had higher levels of IL-17A, and expression of pIgR than the other groups. ANOVA test showed that there were significant differences between rats immunized with combined antigen-adjuvant compared to the other group.

**Keywords :** intranasal immunization, hemagglutinin pili, *S. pneumoniae*, pIgR

