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**ABSTRAK**  
**PENELITIAN PASCASARJANA**



**IDENTIFIKASI TARGET BARU VAKSIN PENGHAMBAT TRANSMISI MALARIA:  
ANALISIS RESPON IMUN MANUSIA TERHADAP FRAKSI PROTEIN DARI  
EKSTRAK KELENJAR SALIVA *Anopheles sudaicus* & *Anopheles aconitus***

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**Dr. rer. nat. Kartika Senjarini (NIDN: 0013097503)  
Dr. Hidayat Teguh Wiyono, MPd. (NIDN: 0028055804)**

**Ketua  
Anggota**

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# **ANALYSIS OF HUMAN IMMUNE RESPONSE AGAINST PROTEIN EXTRACT FROM SALIVARY GLANDS OF *Anopheles sundaicus* IN MALARIA ENDEMIC AREA**

**Kartika Senjarini<sup>2</sup>, M. Mirza Nuryady<sup>1</sup>, Dwi Esti Febriyantiningih, Sabine Specht**

<sup>1</sup>, *Biology Department, Faculty of Mathematics and Natural Sciences, University of Jember, Indonesia*  
*University of Zurich, Switzerland*

## **ABSTRACT**

*Exposure to arthropod vectors of infectious diseases such as malaria has been associated with specific antibody responses against salivary glands protein among people living in endemic area. To examine the effects of salivary gland extract proteins (SGEP) from *Anopheles sundaicus* on human immune response (in vitro), we have conducted the quantification of IgG levels using ELISA and PBMC culture. Here we demonstrated that anti-salivary antibodies (IgG) levels against salivary gland extract protein (SGEP) from *An. sundaicus* were higher in healthy people from malaria endemic area (Bangsring, Banyuwangi) than those from a non-malarious area, and occurred predominantly in 11-40 years age groups which have been considered as a result of long and continuous exposure to malaria mosquito. Furthermore, the *An. sundaicus* SGEP was observed to polarize the host immune response towards a type 2 (Th2) responses, characterized by up-regulating Th2 cytokines (IL-10) and down-regulating Th1 cytokines (IFN- $\gamma$ ).*

**Keywords:** *Anopheles sundaicus*, cytokines, IgG, immune response, salivary gland