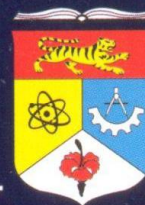


Volume 6, No. 1 (Supplement)  
June 2011  
ISSN 1823-2140

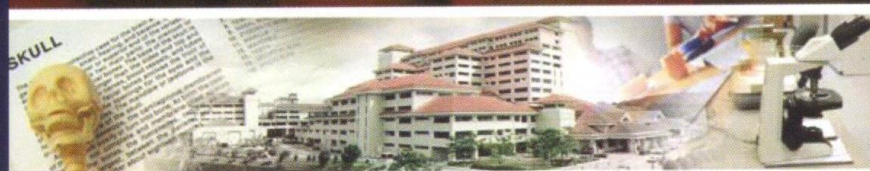
*The*  
**National University**  
*with an*  
INTERNATIONAL REACH



**UNIVERSITI  
KEBANGSAAN  
MALAYSIA**  
*National University of Malaysia*

# MEDICINE & Health

The Official Journal of The Faculty of Medicine UKM



22<sup>nd</sup> - 24<sup>th</sup> July 2011  
Equatorial Hotel, Bangi, Selangor,  
MALAYSIA

officially by  
**Y.B Datuk Rosnah Haji Abdul Rashid Shirlin**  
Deputy Minister of Health Malaysia

Organised by



## IDENTIFICATION OF THE MAJOR ALLERGEN OF *LOLIGO EDULIS* (WHITE SQUID) BY TWO-DIMENSIONAL ELECTROPHORESIS AND MASS SPECTROMETRY ANALYSIS

Zailatul HMY<sup>1</sup>, Rosmilah M<sup>2</sup>, Shahnaz M<sup>1</sup>

<sup>1</sup>*Allergy and Immunology Research Centre, Institute for Medical Research, Kuala Lumpur, Malaysia,*

<sup>2</sup>*Department of Biology, Faculty of Science and Mathematics, Universiti Pendidikan Sultan Idris, Perak, Malaysia*

### **Background:**

IgE-mediated allergic reaction to squid is one of the most frequent molluscan shellfish allergies. Previously, we have detected a 36 kDa protein as the major allergen of *Loligo edulis* (white squid) by immunoblotting using sera from patients with squid allergy. Thus, the aim of this present study was to further identify this major allergen using the proteomics approach.

### **Materials and methods:**

The major allergen was identified by a combination of two-dimensional electrophoresis (2-DE), immunoblotting, mass spectrometry and bioinformatics tools.

### **Results:**

The 2-DE gel fractionated the white squid proteins to more than 50 different protein spots between 10 to 38 kDa and isoelectric point (pI) from 3.0 to 10.0. A *highly reactive* protein spot with a molecular mass of 36 kDa and a pI of 4.55 was observed in all of the serum samples tested. Matrix assisted laser desorption/ionization-time of flight (MALDI-TOF) analysis led to identification of this allergen as tropomyosin.

### **Conclusion:**

This finding would contribute to advancement in component-based diagnosis, management of squid allergic patients to the development of immunotherapy and to the standardisation of allergenic test products as tools in molecular allergology.

### **Keywords:**

Squid allergy, MALDI-TOF, tropomyosin