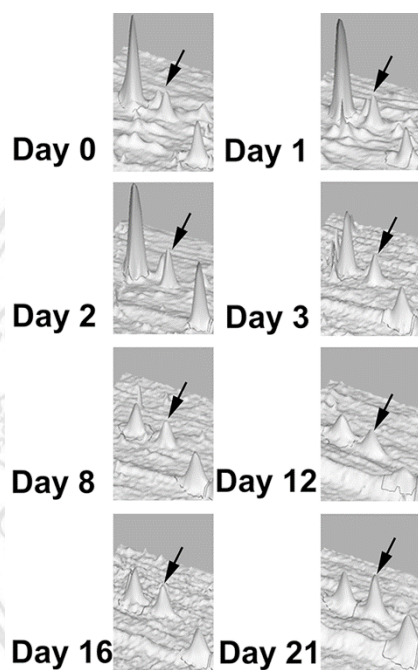


## APPENDIX A

1. Three-dimensional views of equivalent regions from representative gels. Arrows indicate HSC70 peaks expressed at different days during adult development.



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**2. Expression volumes of the 17 major protein spots in the female salivary gland of *An. dissidens* determined at different ages in adult developmental time points.**

SN	ASD ± SD												
	Day0	Day1	Day2	Day3	Day8	Day12	Day16	Day21					
1	0.00 ± 0.00 <sup>a</sup>	0.07 ± 0.01 <sup>b</sup>	0.22 ± 0.02 <sup>c</sup>	0.34 ± 0.02 <sup>c</sup>	0.31 ± 0.02 <sup>c</sup>	0.32 ± 0.01 <sup>c</sup>	0.33 ± 0.01 <sup>c</sup>	0.32 ± 0.01 <sup>c</sup>					
2	0.01 ± 0.01 <sup>a</sup>	0.05 ± 0.01 <sup>a</sup>	0.49 ± 0.06 <sup>b</sup>	0.65 ± 0.05 <sup>b</sup>	0.61 ± 0.07 <sup>b</sup>	0.62 ± 0.06 <sup>b</sup>	0.57 ± 0.08 <sup>b</sup>	0.56 ± 0.08 <sup>b</sup>					
3	0.00 ± 0.00 <sup>a</sup>	0.94 ± 0.02 <sup>b</sup>	3.59 ± 0.05 <sup>c</sup>	3.64 ± 0.02 <sup>c</sup>	3.61 ± 0.05 <sup>c</sup>	3.58 ± 0.06 <sup>c</sup>	3.49 ± 0.05 <sup>d</sup>	1.93 ± 0.04 <sup>e</sup>					
4	0.00 ± 0.00 <sup>a</sup>	0.27 ± 0.01 <sup>b</sup>	0.50 ± 0.01 <sup>c</sup>	0.57 ± 0.01 <sup>c</sup>	0.88 ± 0.04 <sup>d</sup>	1.41 ± 0.01 <sup>d</sup>	1.38 ± 0.03 <sup>d</sup>	1.37 ± 0.02 <sup>g</sup>					
5	0.00 ± 0.00 <sup>a</sup>	0.53 ± 0.01 <sup>b</sup>	0.99 ± 0.01 <sup>c</sup>	1.01 ± 0.01 <sup>c</sup>	1.00 ± 0.01 <sup>c</sup>	0.99 ± 0.01 <sup>c</sup>	0.98 ± 0.02 <sup>c</sup>	0.98 ± 0.03 <sup>c</sup>					
6	0.00 ± 0.00 <sup>a</sup>	0.67 ± 0.01 <sup>b</sup>	1.35 ± 0.02 <sup>c</sup>	1.49 ± 0.05 <sup>c</sup>	1.05 ± 0.06 <sup>b</sup>	1.10 ± 0.04 <sup>b</sup>	0.64 ± 0.01 <sup>b</sup>	0.70 ± 0.05 <sup>b</sup>					
7	0.24 ± 0.04 <sup>a</sup>	5.67 ± 0.02 <sup>b</sup>	8.61 ± 0.02 <sup>c</sup>	8.77 ± 0.01 <sup>c</sup>	8.62 ± 0.05 <sup>c</sup>	8.23 ± 0.01 <sup>d</sup>	8.22 ± 0.01 <sup>d</sup>	8.24 ± 0.01 <sup>d</sup>					
8	0.02 ± 0.01 <sup>a</sup>	5.26 ± 0.04 <sup>b</sup>	5.25 ± 0.01 <sup>b</sup>	5.37 ± 0.01 <sup>b</sup>	7.83 ± 0.01 <sup>c</sup>	14.62 ± 0.29 <sup>d</sup>	11.97 ± 0.61 <sup>e</sup>	11.73 ± 0.18 <sup>e</sup>					
9	0.05 ± 0.01 <sup>a</sup>	1.19 ± 0.02 <sup>b</sup>	2.48 ± 0.07 <sup>c</sup>	3.11 ± 0.01 <sup>d</sup>	3.15 ± 0.05 <sup>d</sup>	3.52 ± 0.04 <sup>e</sup>	3.69 ± 0.04 <sup>f</sup>	3.56 ± 0.04 <sup>e</sup>					
10	0.04 ± 0.02 <sup>a</sup>	0.75 ± 0.01 <sup>b</sup>	1.05 ± 0.02 <sup>c</sup>	2.15 ± 0.02 <sup>d</sup>	2.85 ± 0.07 <sup>d</sup>	2.92 ± 0.04 <sup>d</sup>	3.78 ± 0.01 <sup>e</sup>	3.77 ± 0.04 <sup>e</sup>					
11	0.15 ± 0.01 <sup>a</sup>	2.77 ± 0.02 <sup>b</sup>	5.44 ± 0.04 <sup>c</sup>	5.46 ± 0.02 <sup>c</sup>	5.52 ± 0.02 <sup>c</sup>	7.28 ± 0.01 <sup>d</sup>	7.28 ± 0.02 <sup>d</sup>	7.41 ± 0.03 <sup>e</sup>					
12	0.00 ± 0.00 <sup>a</sup>	0.94 ± 0.02 <sup>b</sup>	1.05 ± 0.06 <sup>b</sup>	1.04 ± 0.07 <sup>b</sup>	1.11 ± 0.05 <sup>b</sup>	4.65 ± 0.04 <sup>c</sup>	3.49 ± 0.05 <sup>d</sup>	3.33 ± 0.06 <sup>e</sup>					
13	0.27 ± 0.03 <sup>a</sup>	4.01 ± 0.04 <sup>b</sup>	7.75 ± 0.07 <sup>c</sup>	7.89 ± 0.02 <sup>c</sup>	7.88 ± 0.03 <sup>c</sup>	12.24 ± 0.07 <sup>d</sup>	12.43 ± 0.06 <sup>e</sup>	12.22 ± 0.04 <sup>d</sup>					

2. (continued)

SN	ASD ± SD										
	Day0	Day1	Day2	Day3	Day8	Day12	Day16	Day21			
14	0.00 ± 0.00 <sup>a</sup>	0.28 ± 0.01 <sup>b</sup>	0.33 ± 0.06 <sup>b</sup>	0.46 ± 0.03 <sup>c</sup>	0.46 ± 0.03 <sup>c</sup>	2.49 ± 0.04 <sup>d</sup>	1.81 ± 0.04 <sup>e</sup>	1.24 ± 0.05 <sup>f</sup>			
15	0.03 ± 0.01 <sup>a</sup>	2.94 ± 0.04 <sup>b</sup>	5.16 ± 0.06 <sup>c</sup>	5.18 ± 0.05 <sup>c</sup>	7.68 ± 0.05 <sup>d</sup>	7.70 ± 0.04 <sup>d</sup>	7.71 ± 0.01 <sup>d</sup>	10.24 ± 0.04 <sup>e</sup>			
16	0.00 ± 0.00 <sup>a</sup>	0.46 ± 0.02 <sup>b</sup>	0.70 ± 0.03 <sup>c</sup>	0.70 ± 0.03 <sup>c</sup>	0.70 ± 0.03 <sup>c</sup>	1.01 ± 0.08 <sup>d</sup>	1.03 ± 0.04 <sup>d</sup>	1.01 ± 0.02 <sup>d</sup>			
17	0.00 ± 0.00 <sup>a</sup>	1.14 ± 0.05 <sup>b</sup>	1.49 ± 0.06 <sup>c</sup>	1.55 ± 0.05 <sup>c</sup>	1.59 ± 0.07 <sup>c</sup>	1.84 ± 0.02 <sup>d</sup>	1.54 ± 0.03 <sup>c</sup>	1.18 ± 0.05 <sup>b</sup>			

<sup>SN</sup> = Spot number refers to those shown in Fig 3.10b

ASD ± SD = Average spot density ± Standard deviation

Averages followed by different superscript (a, b, c, d, e, f) indicate significant difference ( $p < 0.05$ )



## APPENDIX B

### 1. Full-Length Sequence of 16S rRNA gene from *An. dissidens* midguts using culture independent method.

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## 2. Full-Length Sequence of 16S rRNA gene from *An. dissidens* midguts using culture dependent method.

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## CURRICULUM VITAE

<b>Name</b>	Ms. Benjarat Phattanawiboon
<b>Date of birth</b>	July 19, 1987
<b>Educational Background</b>	
<b>2007-2010</b>	B.Sc. (Microbiology), Faculty of Medical Science, Naresuan University, Thailand.
<b>Research Emphasis</b>	Medical Parasitology
<b>Grant</b>	Ph.D Scholarship, The Royal Golden Jubilee Ph.D Program (Grant No. PHD/0350/2552), Thailand Research Fund, Thailand. Faculty of Medicine Research Fund, Faculty of Medicine, Chiang Mai University, Thailand.
<b>Training</b>	<i>In vitro</i> culture of <i>Plasmodium</i> parasites from Department of Biochemistry, Faculty of Medicine, Chiang Mai University, Thailand. Proteomic analysis from Proteomics Laboratory, National Center for Genetic Engineering and Biotechnology, National Science and Technology Development Agency, Thailand. Mosquito infection with Dengue virus and bioinformatics analysis from Department of Molecular Biology and Immunology, Johns Hopkins School of Public Health, Johns Hopkins University, USA.



## Publications

2012

Jariyapan N, Roytrakul S, Paemanee A, Junkum A, Saeung A, Thongsahuan S, Sor-suwan S, **Phattanawiboon B**, Poovorawan Y, Choochote W. Proteomic analysis of salivary glands of female *Anopheles barbirostris* species A2 (Diptera: Culicidae) by two-dimensional gel electrophoresis and mass spectrometry. *Parasitology Research*, 111, 1239-1249.

2013

Sor-Suwan S, Jariyapan N, Roytrakul S, Paemanee A, Saeung A, Thongsahuan S, **Phattanawiboon B**, Bates PA, Poovorawan Y, Choochote W. Salivary gland proteome of the human malaria vector, *Anopheles campestris*-like (Diptera: Culicidae). *Parasitology Research*, 112, 1065-1075.

Jariyapan N, Saeung A, Intakhan N, Chanmol W, Sor-Suwan S, **Phattanawiboon B**, Taai K, Choochote W. Peritrophic matrix formation and *Brugia malayi* microfilaria invasion of the midgut of a susceptible vector, *Ochlerotatus togoi* (Diptera: Culicidae). *Parasitology Research*, 112, 2431-2444.

2014

Sor-suwan S, Jariyapan N, Roytrakul S, Paemanee A, Phumee A, **Phattanawiboon B**, Intakhan N, Chanmol W, Bates PA., Saeung A, Choochote W. Identification of salivary gland proteins depleted after blood feeding in the malaria vector *Anopheles campestris*-like mosquitoes (Diptera: Culicidae). *PLoS One*, 5, 9(3):e90809.

Intakhan N, Jariyapan N, Sor-Suwan S, **Phattanawiboon B**, Taai K, Chanmol W, Saeung A, Choochote W, Bates PA. Exsheathment and

midgut invasion of nocturnally subperiodic *Brugia malayi* microfilariae in a refractory vector, *Aedes aegypti* (Thailand strain). *Parasitology Research*, 113, 4141-4149.

**Phattanawiboon B**, Jariyapan N, Roytrakul, S, Paemanee A, Sor-suwan S, Intakhan N, Chanmol W, Siriyasatien P, Saeung A, Choochote W. Morphological and protein analyses of adult female salivary glands of *Anopheles barbirostris* species A1 (Diptera: Culicidae). *Tropical Biomedicine*, 31, 813-827.

**2016**

**Phattanawiboon B**, Jariyapan N, Mano C, Roytrakul S, Paemanee A, Sor-Suwan S, Sriwichai P, Saeung A, Bates PA. Salivary Gland Proteome during Adult Development and after Blood Feeding of Female *Anopheles dissidens* Mosquitoes (Diptera: Culicidae). *PLoS ONE*, 11: e0163810.

**Meetings attended**

**2012**

Thailand Research Fund Senior Research Scholar Meeting 2012, Chiang Mai, Thailand, 2012. (Oral and poster presentation).

**2013**

Interdisciplinary Research and Development in ASEAN Universities, Chiang Mai, Thailand, 2013 (Poster presentation).

**2014**

RGJ-Ph.D Congress XV, Pattaya, Chonburi, Thailand, 2014 (Poster presentation).

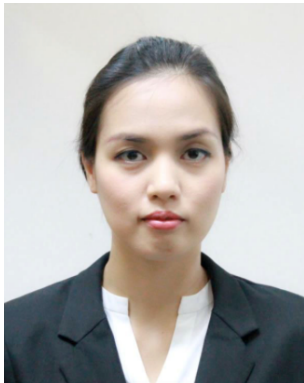
TRF Seminar Series in Basic Research: CII From Molecular to Market, Chiang Mai, Thailand, 2014 (Poster presentation).

**2015**

8th ASEAN Microscopy Conference (AMC8) & 32nd Annual Conference and Meeting of the

Microscopy Society of Thailand (MST32), Nakhon Pathom, Thailand, 2015 (Poster presentation).

The 2015 International Forum-Agriculture, Biology, and Life Sciences (IFABL), Sapporo, Hokkaido, Japan, 2015 (Poster presentation).



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