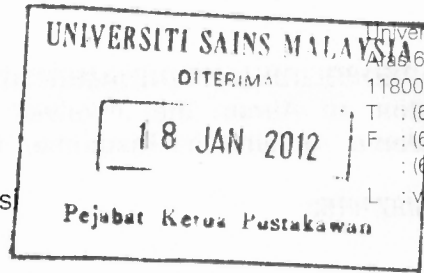




Canselori,

No. Fail : F0285  
Tarikh : 2 Disember 2011

Dr. Aidiahmad Dewa  
Pusat Pengajian Sains Farmas  
Universiti Sains Malaysia



Universiti Sains Malaysia  
Atas 6, Bangunan Canselori  
11800, USM Pulau Pinang  
T : (6)04-653 3108/3178/3988/5019  
F : (6)04-656 6466/8470  
: (6)04-653 2350  
L : www.research.usm.my

Tuan,

**LAPORAN AKHIR SKIM GERAN PENYELIDIKAN FUNDAMENTAL (FRGS)**

Tajuk Projek : Spinal Projection of Abbrain Site Involved in the Regulstion of Sympathetic Nerve Activity in Response to Changes in Blood Volume

No. Akaun : 203/PFARMASI/671153

Dengan hormatnya perkara di atas dirujuk.

2. Terlebih dahulu saya ucapkan ribuan terima kasih di atas satu salinan laporan akhir untuk projek penyelidikan seperti tajuk di atas.

3. Adalah dimaklumkan walaupun projek ini telah selesai, kerjasama Jabatan Bendahari dipohon untuk menguruskan penutupan akaun projek pada selewat-lewatnya **31 Disember 2011**. Tempoh ini bertujuan untuk menyelesaikan semua urusan tuntutan dan bayaran yang telah dibelanjakan di dalam tempoh projek. Walau bagaimanapun, tuan dinasihatkan supaya tidak mengeluarkan borang-borang pesanan baru di dalam tempoh ini.

4. Selanjutnya sila ambil perhatian terhadap perkara-perkara berikut sekiranya berkaitan:

- (i) Semua penerbitan harus merakamkan penghargaan kepada **Skim Geran Penyelidikan Fundamental (FRGS)** dan tuan dipohon mengemukakan satu salinan ke Pejabat ini.
- (ii) Bahagian Penyelidikan & Inovasi boleh/akan mengagihkan semula peralatan yang telah dibeli menggunakan peruntukan geran ini seandainya terdapat penyelidik lain yang memerlukan peralatan tersebut.

5. Akhir sekali, tahniah di atas usaha dan kejayaan pihak tuan dapat menyelesaikan projek ini dengan jayanya.

Sekian, terima kasih.

“BERKHIDMAT UNTUK NEGARA”  
‘Memastikan Kelestarian Hari Esok’

Yang menjalankan tugas,

(AMRA OTHMAN)  
Penolong Pendaftar  
Unit Pengurusan Geran & Kontrak

HAK, HAR, SM

# LAPORAN AKHIR SKIM GERAN PENYELIDIKAN FUNDAMENTAL (FRGS)

Tajuk Projek : Spinal Projection of Abraim Site Involved in the Regulation of Sympathetic Nerve Activity in Response to Changes in Blood Volume

No. Akaun : 203/PFARMASI/671153

s.k. Dekan Penyelidikan  
Pelantar Sains Fundamental  
Pejabat Pelantar Penyelidikan  
Universiti Sains Malaysia

Dekan  
Pusat Pengajian Sains Farmasi  
Universiti Sains Malaysia

Timbalan Dekan  
(Ijazah Tinggi & Penyelidikan)  
Pusat Pengajian Sains Farmasi  
Universiti Sains Malaysia



Ketua Pustakawan  
Perpustakaan Hamzah Sendut  
Universiti Sains Malaysia

Penolong Bendahari Kanan  
Unit Kumpulan Wang Penyelidikan  
Jabatan Bendahari  
Universiti Sains Malaysia

Pegawai Sains  
Pelantar Sains Fundamental  
Pejabat Pelantar Penyelidikan  
Universiti Sains Malaysia

Disampaikan satu salinan laporan akhir projek untuk simpanan Perpustakaan

Mohon kerjasama pihak puan untuk menguruskan penutupan akaun projek selewat-lewatnya pada 31 Disember 2011 dan mohon kemukakan satu salinan penyata kewangan terakhir ke Pejabat ini untuk tujuan rekod



## FINAL REPORT FUNDAMENTAL RESEARCH GRANT SCHEME (FRGS)

*Laporan Akhir Skim Geran Penyelidikan Asas (FRGS) IPT  
Pindaan 1/2009*

**A RESEARCH TITLE** : Spinal projection of a brain site involved in the regulation of sympathetic nerve activity in response to changes in blood volume

*Tajuk Penyelidikan*

**PROJECT LEADER** : Dr. Aidiahmad Dewa

*Ketua Projek*

**PROJECT MEMBERS (including GRA)** : 1. Nurul Hasnida Mohammad Yusoff  
2. Farah Wahida Suhaimi

*Ahli Projek*

### PROJECT ACHIEVEMENT (*Prestasi Projek*)

**B**

#### ACHIEVEMENT PERCENTAGE

Project progress according to milestones achieved up to this period

0 - 50%

51 - 75%

76 - 100%

Percentage

100

#### RESEARCH FINDINGS

Number of articles/ manuscripts/ books

Indexed Journal

*Non-Indexed Journal*

1

Paper presentations

International

*National*

3

1

**Others (Please specify)**

1 M.Sc. thesis entitles "Effects of atrial natriuretic peptide and pregnancy on the central and peripheral regulation of the cardiovascular functions."

#### HUMAN CAPITAL DEVELOPMENT

Human Capital

Number

On-going

Graduated

Others (Please specify):

PhD Student

Masters Student

1 (Local)

Undergraduate Students

Temporary Research Officer

Temporary Research Assistant

**Total**

1

**EXPENDITURE (Perbelanjaan)**

<b>C</b>	<b>Budget Approved (Peruntukan diluluskan)</b>	: <b>RM 152 000.00</b>
	<b>Amount Spent (Jumlah Perbelanjaan)</b>	: <b>RM 151 998.01</b>
	<b>Balance (Baki)</b>	: <b>RM 000 001.99</b>
	<b>Percentage of Amount Spent (Peratusan Belanja)</b>	: <b>% 99.9</b>

**ADDITIONAL RESEARCH ACTIVITIES THAT CONTRIBUTE TOWARDS DEVELOPING SOFT AND HARD SKILLS**  
 (Aktiviti Penyelidikan Sampingan yang menyumbang kepada pembangunan kemahiran insaniah)

<b>D</b>	<b>International</b>		
	Activity	Date (Month, Year)	Organizer
	1) 2 <sup>nd</sup> USM Penang International Postgraduate Convention 4 <sup>th</sup> Life Sciences Postgraduate Conference, Universiti Sains Malaysia, Penang, Malaysia.	18-20 <sup>th</sup> June 2008	USM
	2) Second Collaborative Conference USM-UNAIR, Universitas Airlangga, Indonesia.	10- 11 <sup>th</sup> February 2009	Universitas Airlangga, Indonesia
	3) 4 <sup>th</sup> Asian Association of Schools of Pharmacy 9 <sup>th</sup> Malaysian Pharmaceutical Society Pharmacy Scientific Conference, Vistana Hotel, Penang, Malaysia.	10 – 13 <sup>th</sup> June 2009	USM
	<b>National</b>		
	Activity	Date (Month, Year)	Organizer
	1) 23 <sup>rd</sup> Scientific Meeting of the Malaysian Society of Pharmacology and Physiology, Grand Seasons Hotel, Kuala Lumpur, Malaysia.	12 <sup>th</sup> – 13 <sup>th</sup> May 2009	UKM

**PROBLEMS / CONSTRAINTS IF ANY (Masalah/ Kekangan/ Sukiranya ada)**

- E**
- Difficult to find and isolate the renal sympathetic nerve since it required highly skills and expertise.
  - Technical problems for Neurolog instruments affect the recording of RSNA.

**RECOMMENDATION (Cadangan Penambahbaikan)****F**

**RESEARCH ABSTRACT – Not More Than 200 Words**(*Abstrak Penyelidikan – Tidak Melebihi 200 patah perkataan*)

**G** We have shown that the systemic administration of low and high doses of ANP in urethane-anaesthetized male Sprague-Dawley rats produce a significant renal sympathoinhibition, vasodilation and bradycardic effect, and these effects are dependent on the efficacy of a well established supraspinal vasopressin pathway. These systemic effects of ANP are suggested to be independent of its action on the circumventricular organs. Direct administration of ANP into the paraventricular nucleus (PVN) reveals the central action of ANP, wherein, specific actions in the PVN might possibly mediate the systemic effects of ANP. For pregnancy-related studies, our findings have shown that the reflex tachycardia and renal sympathoinhibitory effects following acute volume loading are attenuated in late-term pregnancy, suggesting some degree of alteration in the reflex mechanisms that maintain the fluid balance. Meanwhile, pregnancy does not alter the effectiveness of the buffering system of transient arterial pressure changes in the face of chronic alteration of the arterial baroreceptor resetting. In different series of experiments, pregnancy reduces the functional contribution of the SNS in maintaining basal vascular tone, but not the NO system, suggesting diminished centrally-regulated sympathetic tone to the vasculature in pregnant subjects. The interaction between these two systems, to some extent, is altered during pregnancy. At the peripheral level, pregnancy causes non-uniform changes in vascular responsiveness to selective vasopressor and vasodepressor agents in a whole animal system in the absence of the central and reflex effects.

**Date :** 13 August 2010  
*Tarikh*

**Project Leader's Signature:** AIDIAHMAD DEWA  
*Tandatangan Ketua Projek*

**COMMENTS, IF ANY/ ENDORSEMENT BY RESEARCH MANAGEMENT CENTER (RMC)**

*(Komen, sekiranya ada/ Pengesahan oleh Pusat Pengurusan Penyelidikan)*

**H**

**Name:**  
*Nama:*

**Signature:**  
*Tandatangan:*

**Date:**  
*Tarikh:*