

香港大學心臟血管研究所

THE INSTITUTE OF CARDIOVASCULAR
SCIENCE AND MEDICINE



2005 Annual Report

Mission Statement of the Institute of Cardiovascular Science and Medicine

The Institute of Cardiovascular Science and Medicine (ICSM) commits itself to strive for excellence in research, teaching and training in cardiovascular sciences which contributes to the prevention and patient management of cardiovascular diseases in Hong Kong.

We shall offer the highest standards of teaching research and scholarship in an interactive environment conducive to creativity, to innovative learning and to freedom of thought, enquiry and expression in all aspects of cardiovascular sciences.

We shall continue to undertake research, teaching and other forms of service in clinical and basic cardiovascular sciences which will advance our quest for wisdom, truth and excellence in biomedical science at large.

We shall make known the mission of this Institute in Hong Kong and internationally

Governance

Council

The members of the Institute elect a Council, who are responsible for carrying out the work of the Institute according to its Mission, Objectives, By-Laws and Regulations. The Council consists of the Officers, the immediate Former Director (if available), and three to ten Council Members. The Officers of the Institute are the Director, Deputy Director, Honorary Secretary and Honorary Treasurer. Each Council serves the Institute for a period of two years. The Fourth Council of the Institute was elected at the 7th Annual General Meeting on 6th December 2003 and one member was subsequently co-opted in 2004. The Fifth Council of the Institute was elected at the 9th Annual General Meeting on 3rd December 2005 and one member was subsequently co-opted in 2005.

Fourth Council of the ICSM (December 2003 – December 2005)

Director:	Professor T.M. Wong	Council	Dr. H.J. Ballard
Deputy		Members:	Dr. A.K.T. Chau
Director:	Dr. H.F. Tse		Dr. W.H. Chen
Honorary			Dr. B.M.Y. Cheung
Secretary:	Dr. M.L. Fung		Professor C.P. Lau
Honorary			Dr. K.L.F. Lee
Treasurer:	Dr. Y.F. Cheung		Professor R.Y.K. Man
			Dr. K.C.B. Tan
			Professor P.M. Vanhoutte

Fifth Council of the ICSM (December 2005)

Director:	Professor T.M. Wong	Council	Dr. H.J. Ballard
Deputy		Members:	Dr. B.M.Y. Cheung
Director:	Professor H.F. Tse		Professor Y. Huang
Honorary			Professor C.P. Lau
Secretary:	Dr. M.L. Fung		Dr. K.L.F. Lee
Honorary			Dr. G.P.H. Leung
Treasurer:	Professor S.S.M. Chung		Professor R.Y.K. Man
			Professor P.M. Vanhoutte

Membership Sub-Committee of the Council

Dr. H.J. Ballard

Dr. B.M.Y. Cheung

Dr. M.L. Fung

Membership

Membership of the Institute of Cardiovascular Science and Medicine continued to increase in 2005. At the end of the year 2005, membership stood at 164, and consisted of 12 Founding Members, 60 Full Members, 23 Associate members and 69 Affiliate Members.

Criteria for membership

Clinicians, scientists, researchers and students with an interest in the cardiovascular field are invited to become members of the Institute. The classes of membership open to applicants are Full, Associate or Affiliate Membership.

All applicants for admission shall

1. Be at least 18 years of age; and
2. Be of good character and repute; and
3. Undertake in writing to adhere to the By-Laws of the Institute, as amended from time to time.

Applicants for admission as a Full Member shall also

1. Be a full time or honorary teacher (Assistant Professor, Honorary Clinical Lecturer or above) of the University of Hong Kong or be deemed to be holding an equivalent position; and
2. Be engaged in research in cardiovascular science or cardiovascular medicine, as evidenced by his or her published works.

Applicants for admission as Associates shall also

1. Possess either a medical degree (MBBS or equivalent) plus a higher qualification (MRCP or equivalent), or a doctorate (PhD or equivalent) in science; and
2. Be engaged in research in cardiovascular science or cardiovascular medicine.

Applicants for admission as Affiliates shall also

1. Possess a University degree or equivalent in medicine, nursing or science; and
2. Be engaged in or have a strong interest in cardiovascular research.

Applications for membership, accompanied by the appropriate supporting documents (eg. resume, list of relevant publications, copies of certificates) should be submitted to the Honorary Secretary, to whom membership enquiries may also be addressed. The application form may be obtained by writing or e-mailing (icsm@hkucc.hku.hk) to the Honorary Secretary, or it may be downloaded from the membership section of our website (<http://www.icsm-hk.org>)

Research Activities of the ICSM

Organisation of Research

The Institute of Cardiovascular Science and Medicine aims to achieve academic and research excellence in cardiovascular sciences and medicine which contributes to the prevention and patient management of cardiovascular diseases through an interactive environment conducive to integrative teamwork and multidisciplinary approach to research. The research themes for our research are organized into four major projects, namely Epidemiology & Genetics, Atherosclerosis, Inflammation & Thrombosis, Novel Therapies, and Complications. The Epidemiology & Genetics group will evaluate cardiovascular risk factors in the Chinese population, predict trends in cardiovascular diseases, and identify genetic markers for susceptibility to cardiovascular diseases. The Atherosclerosis, Inflammation & Thrombosis group study the pathogenesis of vascular disease, particularly whether homocysteinaemia, inflammatory markers such as CRP or adrenomedullin are suitable targets for treatment and prevention of atherosclerosis. The Novel Therapies group are the only team in Hong Kong that is already developing stem cell transplantation for humans. Their focus is the regeneration of normal heart muscles, neurons and blood vessels in areas damaged as the result of atherosclerotic disease. The “Complications” team comprises two research groups: the Hypoxia & Ischaemia group are characterising the responses and adaptations of various organs to hypoxia or ischaemia, with the particular aim of exploiting preconditioning to induce some degree of protection against target organ damage in vascular disease, whilst the Arrhythmia & Heart Failure team are actively developing new treatments for these conditions, which commonly occur in patients with vascular disease, and which carry a very high mortality.

Epidemiology & Genetics: Cardiovascular Risk Factors

Co-ordinator Dr. B.M.Y. Cheung

Key team members Stephen WK Cheng, BMY Cheung, YF Cheung, TH Lam, Sidney CW Tam.

Outline: There is a shortage of prospective data on cardiovascular risk factors in Chinese populations. Our group are engaged in epidemiological studies involving thousands of subjects, which are representative, because of random sampling, and prospective, entailing a long open-ended follow up period. Clinical information will be obtained and DNA stored for future nested case control studies after 5-10 years of follow-up. Sub-samples of the subjects and the stored DNA and plasma will be used immediately for the investigation of genetic markers for diabetes and hypertension. Within the research team for this project, we have expertise in clinical, epidemiological, genetic, molecular, cellular and pharmacological research to facilitate the various aspects of the programme.

Epidemiology. We are examining the prevalence of risk factors in Hong Kong Chinese men and women, including hypertension, diabetes, hypercholesterolaemia, obesity and smoking, and how these change over time. The trends in the risk factors can be used to guide public health policy. Other projects include both retrospective and long-term prospective studies to investigate the effects of perinatal influences on cardiovascular risk factor development in adult life and the cardiovascular risk factors of peripheral vascular diseases, whilst a separate study focuses specifically on genes, lifestyle and diseases in Chinese elderly in Hong Kong.

Genetics: DNA collected in the large epidemiological studies can be used in the investigation of genetic markers for susceptibility to diseases such as diabetes and hypertension using the candidate gene approach and data from the prospective studies.

Pathogenesis: Atherosclerosis, Inflammation and Thrombosis

Co-ordinator Professor Ricky Y.K.Man

Key team members JP Bourreau, BMY Cheung, HF Tse, SCF Tam, F Tang

There is mounting evidence that inflammation plays a role in the pathogenesis of atherosclerosis. Small increases in serum levels of C-reactive protein (CRP), a marker of systemic inflammation, are associated with increased risk of ischaemic heart disease, and serum CRP level is an independent risk factor for cardiovascular disease. The underlying mechanisms of the inflammatory responses in atherosclerosis and diabetic vascular complications are not clear. This is an important area of research as a better understanding of these mechanisms may help to design novel therapeutic approaches. Adrenomedullin is a peptide that acts as a local autocrine and/or paracrine vasoactive hormone, and it has vasodilator and blood pressure lowering properties. It may also play a role in mediating inflammatory responses. Plasma concentration of adrenomedullin is elevated in patients with cardiovascular disease, in inflammatory states and septic shock, and in diabetic patients with complications. Platelet aggregation and thrombosis also play a crucial role in acute coronary syndromes, and studies are underway to evaluate the combination of anti-platelet and anti-thrombin therapy in these patients.

Novel Therapies: Stem Cell Transplantation and Traditional Chinese Medicine

Co-ordinator Dr. H.F. Tse

Key team members SWK Cheung, CP Lau, GR Li

Stem Cell Transplantation

Outline: Coronary atherosclerotic disease and stroke is a major cause of morbidity and mortality in industrialized nations. Sudden blockage of coronary and cerebral arteries can cause heart attack, which may be complicated by shock, chronic heart failure, strokes, and/or sudden death. Despite advances in drug therapy and catheter-based intervention, which are targeted toward opening of the blocked arteries and restoration of normal blood flow to the heart muscles and brain, a significant number of cases continue to result in loss of normal heart function and cerebral function. Loss of heart muscles results in heart failure, and in the most severe form, the patients have survival less than 1 year. Loss of brain function results in impairment of motor and sensory function. Drug treatment remains palliative, and heart transplantation is limited by the availability of donors. Regenerating normal myocardium, neurons and blood vessels is conceptually an attractive way to restore normal function to the damaged heart or brain. Our research group contains the only team in Hong Kong that is already developing stem cell transplantation for humans.

Traditional Chinese Medicine

Outline: There is an enormous, and presently under-exploited, potential for the use of Chinese medicinal drugs as an adjunct to, or replacement for, western medical approaches. These substances are very attractive to consumers, because of their natural origins, but a proper scientific approach to the investigation and validation of their properties is essential. Hong Kong, with its East-meets-West culture has a great advantage over both western and mainland Chinese Universities in this area, and the ICSM is

excellently placed to carry out a research programme: our group includes cardiologists, cardiovascular physiologists and cardiovascular pharmacologists, who are already very active in this area, and who have long-standing research collaborations on the topic with groups in the mainland.

Complications

Pathogenesis of Complications: Hypoxia and Ischaemia

Co-ordinator Professor T.M. Wong

Key team members HJ Ballard, JP Bourreau, YF Cheung, ML Fung, GR Li, F Tang

Outline: When an organ is subjected to hypoxia/ischaemia, it initiates a series of responses, some of which serve to protect the tissue against hypoxic/ischaemic damages, while others exacerbate the damages. Our goal is to identify the beneficial responses, and develop strategies to enhance them, and determine the deleterious responses so that we can develop means to negate them. We put particular emphasis on the heart and the brain as the incidence of ischemic heart diseases and stroke is increasing in Hong Kong and China. We are involved in characterising the responses and adaptations to acute or chronic hypoxia, and in the investigation of the phenomenon of the protection or pre-conditioning, which is particularly pronounced in the heart. Understanding of the compensatory responses and mechanisms of preconditioning will enable us to design better strategies in the prevention and treatment of diseases/disorders arising from hypoxia/ischaemia. The role of free radicals as intermediaries of hypoxic ischaemic injury is also under investigation.

Treatment of Complications: Arrhythmia and Heart Failure

Co-ordinator Professor C.P. Lau

Key team members HW Chan, K Fan, CP Lau, KLF Lee, GR Li, HF Tse

Outline: Coronary artery disease may result in a number of cardiac complications, including arrhythmia and heart failure. Heart failure is responsible for 20% of all mortality in Hong Kong, and the incidence of heart failure is increasing. Many cases of death from heart failure are sudden, usually related to the occurrence of cardiac arrhythmias. The Arrhythmia Service of the Cardiology Division of Queen Mary Hospital, the University of Hong Kong, is the most internationally recognized cardiac arrhythmia centre in Asia. We have an excellent track record of genetic, molecular, cellular, epidemiology and clinical research in heart failure and arrhythmias. Members of our research group are international authorities and pioneers in using pacing and ablation for atrial fibrillation, the use of catheter based cooling energy (cryoablation) for the ablation of focal atrial fibrillation, animal and cell model for anti-arrhythmic drug development, electronic cardiac signal processing during arrhythmia (patent pending), reverse cardiac remodelling after cardiac resynchronisation etc. Our group will develop new ablative device technology.

Scientific Meetings

The Ninth Annual Scientific Meeting: Metabolic Syndromes

The Ninth Annual Scientific Meeting was successfully held at the Hong Kong Convention and Exhibition Centre on December 3rd and 4th 2004. Co-chairpersons of the Meeting were Prof TM Wong, Dr KLF Lee and Dr HF Tse. The scientific programme comprised three symposia focusing on "Novel treatment for cardiovascular diseases and diabetes"; "Cardiovascular complications in diabetes" and "Diet and cardiovascular disorders" and a special symposium on "Heart failure management". For the symposia, plenary lectures and invited talks were delivered by our overseas speakers: Prof TF Luscher from the University Hospital Zurich, Switzerland; Prof M Hanson from the University of Southampton, UK and Prof DP Fishbein from the University of Washington, Department of Medicine (Cardiology), USA, and also by our local faculty members, Dr BMY Cheung, Dr SSM Chung, Prof Y Huang, Prof CP Lau, Dr R Li and Dr KCB Tan. Twelve chaired oral and fourteen poster presentations were held on the Sunday morning, from which six best presentations were selected for the Best Paper Award supported by the Dr Sun Chieh Yeh Heart Foundation. Prof TM Wong and Prof M Hanson commended the impressive performance of the presentations and the awards to the best three oral and three poster presenters, were delivered respectively by Prof M Hanson and Prof CS Tang. The Meeting concluded with a closing remarks from the ICSM Director. The meeting was very well received and attracted a record high over 250 registrants, and 167 abstracts were submitted including participants and submission for the fifth Scientific Conference on Cardiovascular Sciences across the Strait.

The Fifth Scientific Conference on Cardiovascular Sciences across the Strait

It was the first time the meeting was held in Hong Kong, which was supported by the ICSM. The 5th Scientific Conference on Cardiovascular Sciences across the Strait was incorporated into the Ninth ASM and so was held at the Hong Kong Convention and Exhibition Centre on December 3rd and 4th 2004. The Meeting commenced with three plenary lectures by Prof LY Chau of the Academia Sinica, Taiwan, Prof YF Guan of the Peking University, Dr HF Tse of HKU, followed by twelve invited talks in three parallel sessions by Mainland, Taiwan and local ICSM members including Dr WH Chen and Dr GR Li. At the Opening Ceremony, Prof GJ Zhu and Prof MT Lin were invited to give a speech. The meeting was very well received and was concluded with a conference dinner with the delegates from Mainland and Taiwan.

Visitors and Seminars

Professor C. L. Huang of the Department of Physiology, Cambridge University gave a seminar entitled "Genetic models for cardiac arrhythmogenesis: Brugada Syndrome and sudden cardiac death" on September 21, 2005. ICSM members had a discussion with Professor Huang during his visit and the event was jointly held with the Department of Physiology, HKU. In addition, a joint seminar with the Department of Pharmacology, HKU, entitled: "Characterization and treatment of coronary artery endothelial dysfunction in a porcine model of left ventricular hypertrophy" delivered by Professor Louis P. Perrault of the Department of Surgery and Pharmacology, University of Montreal, was held on 6th October 2005.

Media Briefings

Two press conferences on “Research breakthroughs in stem cell transplantation and the metabolic syndrome” were held on December 3, 2005 during our Ninth Annual Scientific Meeting. Dr. R. Li and Dr H.F. Tse reported on topic entitled: “Cutting Electricity could make human embryonic stem cells safer for clinical use”. In addition, Professor M. Hanson, Dr. B.M.Y. Cheung and Dr. N.G. Thomas introduced the topic “Obesity, smoking and diet and fetal environment as causes for metabolic syndrome”. The topics were very well covered by local newspapers (*Apply daily, Sing Tao Daily, Wen Wei Pao, Ta Kung Pao, The Sun*), and major broadcasting stations (*TVB, ATV*).

Research Collaboration

The ICSM had meetings with the Centre of Endocrinology and Diabetes (CED) at HKU and had discussion on joint efforts on the research theme, namely Heart, Brain, Hormone and Healthy Ageing. Also, collaborative links were further expanded to other groups researching in areas related to cardiovascular science and medicine. Research funding was granted by Faculty of Medicine, HKU to support the Anti-Ageing Program jointly proposed by the ICSM and the Centre of Endocrinology and Diabetes (CED). Funding was allocated to support research projects in relation to geriatric medicine and diabetes, vascular biology, and regenerative biology and medicine.

Research grants awarded by the RGC in 2005 to members of the ICSM

Principal/Co Investigator	Institution	Project Title	Award (HK\$)
Dr HF Tse, Prof CP Lau (CI), Dr GR Li (CI), Dr RA Li (CI)	HKU	Embryonic stem cell transplantation as a novel therapy for post-infarct left ventricular remodeling	698,957
Dr HF Tse, Prof CP Lau (CI), Dr ML Fung (CI), Dr GR Li (CI), Dr RA Li (CI), Prof TM Wong (CI), Prof HT Yang (CI)	HKU	Hypoxia-mediated differentiation of murine and human embryonic stem cells into cardiomyocytes: mechanistic roles of calcium and ion channels	796,000

Meeting our Targets

Aims for 2005

Our goals were to further enhance the breadth and depth of the research collaboration with other research groups, by bringing together researchers in cardiovascular science and medicine, and actively promote collaboration between its members. In addition, to promote research activities and collaboration in the Institute, funding was sought for supporting another Post-doctoral Fellow Dr. K. W. Au, who joined the Institute as a Post-doctoral Fellow in 2005. Also, the ICSM held press conferences to report our most interesting new findings and continuously obtains the award of research grants and published research papers in top international journals. Members in the ICSM have been actively participating and involved in the research activities in the HKU strategic research theme, namely the Heart, Brain, Hormone and Healthy Ageing (HBHA). The ICSM also had meetings jointly organized with the HBHA Research Centre. Last but not least, collaborative links were further expanded to other groups researching in areas related to cardiovascular science and medicine. Joint symposia with the CED and the HBHA were held in the 9th ICSM Annual Scientific Meeting. All of these objectives were fully achieved during 2005.

Aims for 2006

Collaborations with other research groups

The major mortality and morbidity in the ageing population is attributable to cardiovascular disease, whilst diabetes is associated with accelerated atherosclerosis. Heart disease, peripheral vascular disease and stroke are the major causes of death in diabetic patients over the age of 50: diabetes doubles the probability of stroke and increases the probability of myocardial infarction by 3-5 times. We aim to strengthen our links with the HBHA research centre and research groups working on geriatric medicine and diabetes, vascular biology, and regenerative biology and medicine so as to further increase our research contribution in these areas.

International collaborations

The ICSM has also been actively seeking international links for new research collaborations, joint scientific meetings so as to promote research activities and to further increase the visibility of the ICSM internationally, for examples, by strengthening collaborations with the Canadian groups and the Shanghai Institute of Hypertension; also collaborations among colleagues in Australia, Mainland, Taiwan, Japan, Europe and the north American for such.

ICSM Publications in 2005

Abstracts from the Ninth Annual Scientific Meeting (held in December 2005) were published as a Supplement to the October 2005 issue of the Journal of the Hong Kong College of Cardiology (Volume 13, Number 2).

<u>YY Dong</u> , M Wu, APC Yim & GW He	ALTERATION OF MEMBRANE HYPERPOLARIZATION OF CORONARY ARTERIES UNDER HYPOXIA-REOXYGENATION	99
<u>J Du</u> , N Xu, Y Song, M Xu, Z Lu, C Han and Y Zhang	AICAR STIMULATES IL-6 PRODUCTION VIA P38 MAPK IN CARDIAC FIBROBLASTS IN ADULT MICE: A POSSIBLE ROLE FOR AMPK	100
<u>GX Fu</u> , JJ Liu; DL Zhu and PJ Gao	INCREASED EXPRESSION OF OSTEOPONTIN IN RAT ARTERIAL ADVENTITIAL FIBROBLASTS BY RENIN ANGIOTENSIN OLDOSTERONE SYSTEM AND ITS POTENTIAL ROLE IN NEOINTIMA FORMATION	100
<u>Kwan Hiu-ye</u> , Huang Yu and Yao Xiaoqiang	TWO INTERACTING PHOSPHORYLATION-MEDIATED INACTIVATION MECHANISMS ON TRPC3	105
<u>Li Li</u> , Li Ling Wu and Feng-Ying Fu	ADIPONECTIN-MEDIATED SIGNAL TRANSDUCTION PATHWAY INVOLVED IN THE METABOLIC CHANGE OF CARDIAC HYPERTROPHY	108
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<u>A. Qu</u> , M. Xu, C. Jiang and X. Wang	HIGH INSULIN LEVEL BUT NOT HYPERGLYCEMIA CONTRIBUTES TO NEOINTIMAL FORMATION AFTER VASCULAR INJURY OF DIABETIC RATS	118
<u>SW Seto</u> , YM Lau, TY Lam, HK Chiang, HH Lam, WK Chiu, HY Ng, YW Kwan, SM Ngai and GPH Leung	COMPARISON OF VASCULAR RELAXATION AND LIPOLYTIC EFFECT OF THIAZOLIDINEDIONES IN DIABETIC (+DB/+DB) AND NON-DIABETIC (+DB/+M) MICE	118
<u>Lu TIE</u> , Yan-hua LIN, Xiao-hao YAO, He-ming Yu and Xue-jun LI	EFFECT OF DIABETES MELLITUS AND CHRONIC UNPREDICTABLE MILD STRESS ON BRAIN-PANCREAS RELATIVE PROTEIN (BPRP) IN RAT BRAIN AND PANCREAS	121
<u>T Wang</u> , Z Chen and Y Zhu	CHOLESTEROL LOADING INCREASES TRANSLOCATION OF ATP SYNTHASE-B SUBUNIT INTO MEMBRANE CAVEOLAE IN HUMAN VASCULAR ENDOTHELIAL CELLS	122

<u>SL Wong</u> , FP Leung, CW Lau, X Yao, PM Vanhoutte & Y Huang	ESSENTIAL ROLE OF CYCLOOXYGENASE-2 IN ENDOTHELIUM-DEPENDENT CONTRACTION TO ACETYLCHOLINE IN HAMSTER AORTAS	123
<u>Xiao-hong XIA</u> , Zhi-hui MIAO, Yan LIU, Yan-ling WANG and Li-hua HONG	ROLE OF DOPAMINE IN THE ENHANCEMENT OF PERIPHERAL CHEMOREFLEX FUNCTION AND GENESIS OF CHEYNE-STOKES RESPIRATION IN HEART FAILURE RABBITS	125
<u>Yau-Chi Chan</u> , Xiaoqiang Yao, Cuiling Liu, PM Vanhoutte and Y Huang	RALOXIFENE AT THERAPEUTIC CONCENTRATIONS DILATES PRESSURIZED RAT RESISTANCE-SIZED MESENTERIC ARTERIES. ENDOTHELIUM AND GENDER TAKE PART?	96
<u>Sheng-Hsien Chen-</u> and <u>Mao-Tsun Lin</u>	DELIVERY OF HUMAN UMBILICAL CORD BLOOD CELLS CAUSES ATTENUATION OF CIRCULATORY SHOCK AND CEREBRAL ISCHEMIA DURING HEAT STROKE	97
<u>Yung-Hsiang Chen</u> , Yuh-Lien Chen, Shing-Jong Lin and Jaw-Wen Chen	HIGH GLUCOSE INCREASES SENESENCE AND IMPAIRS ACTIVITY OF PERIPHERAL BLOOD-DERIVED ENDOTHELIAL PROGENITOR CELLS	97
<u>SF Cheung</u> , JWC Leung, AK Cheung, KSL Lam, SSM Chung and SK Chung	MORPHOLOGICAL AND BIOCHEMICAL STUDY OF RETINA IN TRANSGENIC MICE OVEREXPRESSING ENDOTHELIN-1 IN ENDOTHELIAL CELLS INDUCED BY CAROTID ARTERY TRANSIENT ISCHEMIA	98
<u>Qilong Feng</u> , Xiangli Cui, Huacheng Zhao, Dongmei Wu, Guoquan Fan, Luying Zhao and Bowei Wu	STIMULATION OF Na ⁺ -Ca ²⁺ EXCHANGE BY PURIFIED ANTIBODY AGAINST ALPHA (A)-2 REPEAT IN RAT CARDIOMYOCYTES	100
Tingting Ren, <u>Jinhan He</u> , Hongfeng Jiang, Luxia Zu, Shenshen Pu, Xiaohui Guo and Guoheng Xu	METFORMIN BLOCKS LIPOLYSIS IN PRIMARY RAT ADIPOCYTES STIMULATED BY TUMOR NECROSIS FACTOR- α OR ISOPROTERENOL	102
<u>Hung MW</u> , Yeung HM, Tipoe GL, Poon A, Shiu S and Fung ML	MELATONIN ATTENUATES CARDIAC ISCHEMIA/REPERFUSION INJURY AND HYPERTENSIVE RESPONSE TO CHRONIC HYPOXIA IN RATS	104
<u>De-Jian Jiang</u> , Su-Jie Jia, Yu Cao and Yuan-Jian Li	NICOTINE MODULATES DDAH/ADMA/NOS PATHWAY OF VASCULAR ENDOTHELIAL CELL	104

<u>Ju-Chi Liu</u> , Tzu-Hurng Cheng, Cheng-Hsien Chen and Paul Chan	INHIBITORY EFFECT OF TRILINOLEIN ON ANGIOTENSIN II-INDUCED ENDOTHELIN-1 GENE EXPRESSION IN RAT CARDIAC FIBROBLASTS	113
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<u>SHAN Zhi-Xin</u> , YU Xi-Yong, FU Yong-Heng, TAN Hong-Hong, LIN Qiu-Xiong, DENG Chun Yu, YU Hui-Min and LIN Shu-Guang	THE RELATIONSHIP BETWEEN THE GENE POLYMORPHISM OF MACROPHAGE MIGRATION INHIBITORY FACTOR AND CORONARY HEART DISEASE	118
<u>R Tao</u> , CP Lau and GR Li	FUNCTIONAL ION CHANNEL EXPRESSION IN MOUSE BONE MARROW DERIVED MESENCHYMAL STEM CELLS	120
<u>YU XiYong</u> , SHAN ZhiXin, LIN QiuXiong, YANG Min, LIN ShuGuang and LAN HuiYao	MACROPHAGE MIGRATION INHIBITORY FACTOR ACTIVATES MEK-ERK SIGNALING PATHWAY AND MMPS EXPRESSION IN MACROPHAGES	127

Publications of ICSM Members in 2005

Ansari MT, Cheung BM, Qing Huang J, Eklof B, Karlberg JP. Traveler's thrombosis: a systematic review. Review. *J Travel Med* 12(3):142-54, 2005.

Bos R, Mougnot N, Findji L, Mediani O, Vanhoutte PM, Lechat P. Inhibition of catecholamine-induced cardiac fibrosis by an aldosterone antagonist. *J Cardiovasc Pharmacol* 45(1):8-13, 2005.

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