

香港大學心臟血管研究所

THE INSTITUTE OF CARDIOVASCULAR
SCIENCE AND MEDICINE



2004 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.

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

Membership Sub-Committee of the Council

Dr. H.J. Ballard Dr. B.M.Y. Cheung Dr. M.L. Fung

Fund-Raising Sub-Committee of the Council

Dr. K.L.F. Lee Dr. A.K.T. Chau

Membership

Membership of the Institute of Cardiovascular Science and Medicine continued to increase in 2004. At the end of the year 2004, membership stood at 155, and consisted of 12 Founding Members, 57 Full Members, 23 Associate members and 63 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, WH Chen, B Cheung, K O, YL Siow, 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, PCW 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.

Visitors and Seminars

Professor Naranjan Dhalla, Distinguished Professor of Physiology, Director of the Institute of Cardiovascular Sciences, St. Boniface General Hospital Research Centre, Faculty of Medicine, University of Manitoba, Winnipeg, Canada gave a fascinating seminar entitled "Subcellular Remodeling in Congestive Heart Failure" on September 17, 2004. ICSM members had a discussion with Professor Dhalla during his visit. In addition, we met with Mr. Ivan Berkowitz, Director of Development, INTERNATIONAL ACADEMY of CARDIOVASCULAR SCIENCES and potential areas for future collaboration between the ICSM and the IACS were identified. Professor Thomas F Luscher, Professor and Head of Cardiology, University of Zurich, Switzerland, is invited to deliver a keynote lecture entitled "Translational research in Switzerland: From human vascular cells to clinical trials" on December 3, 2004.

Scientific Meetings

The Eighth Annual Scientific Meeting: Vascular Biology: From Bench to Patient

The Eighth Annual Scientific Meeting was held at the Hong Kong Convention and Exhibition Centre on December 11th and 12th 2004. Co-chairpersons of the Meeting were Prof PM Vanhoutte and Dr BMY Cheung. The scientific programme comprised six symposia and had a strong focus on vascular biology: from basic research on vascular smooth muscle cell functions and endothelial dysfunction to novel treatment and drugs for vascular diseases. The Meeting started with five invited lectures and twelve chaired poster presentations and twelve oral communications, from which three best presentation were selected for the Young Investigator Award. Professor Ricky Y.K. Man, Acting Dean of the Faculty of Medicine, HKU and Dr. Dennis T.L. Sun, Guest-of-Honor, Sun Chieh Yeh Heart Foundation, were invited to the opening ceremony. The Symposia were devoted to "Vascular Smooth Muscle - The Forgotten Partner", "Endothelial Function and Dysfunction", "New Technology in Cardiovascular Medicine", "Novel Drugs for Vascular Diseases", "Hypertension and Other Risk Factor" and "Stem Cells and Vascular Repair". Plenary lectures and invited talks were delivered by our overseas visitors, Richard A. Cohen from the Boston University School of Medicine, Hiroaki Shimokawa from the Kyushu University Graduate School of Medical Sciences, Japan, Jean-Paul Vilaine from the Institut de Recherches Servier, France, Ming-Dong Zhou from Zensun (Shanghai) Sci. & Tech. Ltd, China, and also by our local faculty members, W.H. Chen, B.M.Y. Cheung, Y.F. Cheung, G.W. He, Y. Huang, Y.L. Kwong, K.S.L. Lam, P.Y. Lee, G.P.H. Leung, S. Tam, B. Tonlinson, H.F. Tse, and PM Vanhoutte. The Meeting concluded with the award of the Young Investigator Awards and a closing remarks from the ICSM Director. The meeting attracted over 200 registrants, and 75 abstracts were submitted.

Frontiers in Biomedical Research 2004

The ICSM is one of the participating centres of the FBR 2004 meeting held on Friday, 3 December 2004 at the Cheung Kung Hai Conference Centre, Faculty of Medicine Building, The University of Hong Kong. Professor Thomas F Luscher from University of Zurich, Switzerland, was invited to deliver a keynote lecture. In addition, members of the Institute, Prof. C.P. Lau, Drs. K.C.B. Tan and M.L. Fung delivered talks on various topics at the meeting.

Hypoxia Symposium

The symposium was jointly hosted by the ICSM and the Department of Physiology at HKU on February 7, 2004. Local speakers and colleagues from the Department of Biology and Chemistry, City University of Hong Kong were invited to deliver presentations focusing on the systemic and molecular responses to hypoxia from a comparative point of view.

Satellite Meeting of World Congress of ISHR

World Congress of International Society for Heart Research had a Satellite Meeting in Hong Kong on August 13-15, 2004. Prof PM Vanhoutte, Prof RYK Man, and Prof David Ku were the persons organizing this Satellite Meeting. This Meeting brought together with ICSM for fund raising events and was well received by cardiovascular scientists, physicians and cardiologists.

Media Briefings

Professor C.P. Lau and Dr. H.F. Tse held a press conference on January 3, 2004 on a topic "Stem Cells Therapy: Novel Strategy For Heart Tissue Regeneration in Patients after Heart Attack". In addition, Professor C.P. Lau, Dr. H.F. Tse and Dr. R. Li introduced a novel approach that can regenerate a cardiac "biological pacemaker" using gene therapy and /or bioengineering techniques that might offer a cheaper, safer alternative to the existing electronic implant at a press conference held on August 30, 2004. Also, Professor C.P. Lau had over twenty media coverages on various topics: 'World Heart Day'; 'Biological pacemaker' and preventions of heart diseases by local newspapers (*Apply daily, HK Economic Daily, HK Commercial Daily, Ming Pao, Metro Daily, Oriental Daily, Sing Dao Daily, South China Morning Post, Wen Wei Pao, Ta Kung Pao, The Sun*), magazine (*Next magazine*) and journals (*HK Health Journal, Physician Pharmacist People*), and broadcasting stations (*TVB, ATV, Cable TV, Commercial Radio, Metro Radio, Phoenix Satellite TV, RTHK*) in 2004. Dr. R. Li also had interviews on topics: 'Embryonic stem cells keep heart beating' by *ABC News / Forbes / Lifeclinic, U.S.* and 'Biological pacemaker hope' by *Talk Transplant, U.K.* in December 2004; 'A boost for medical research at HKU' by *Medical Tribune, Hong Kong* in October 2004; 'Hong Kong, US doctors research biological pacemaker' by *South China Morning Post, Hong Kong* in August 2004; 'Growing healthy heart cells' by *The Standard, Hong Kong* in August 2004.

Fund Raising

The activities of the ICSM are funded through its commercial activities, such as advertising revenue associated with the Annual Scientific Meeting and assay services for cardiovascular risk factors, as well as donations, mainly from pharmaceutical companies. We aimed to increase our funding base, so as to be able to provide more funding to research projects. An advertising flyer was sent out to members of the general public in December 2001, to introduce our research work to the population of Hong Kong and to solicit donations for research funding.

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 2004 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 Li Ronald (CI)	HKU	Functional role of pacemaker current, I(f) in sinoatrial node probed by somatic gene transfer of bioengineered HCN channels in swine	1,051,280

Other research grants awarded in 2004 to members of the ICSM

Principal Investigator	Project Title	Awarding body	Award (HK\$)
Dr Cheung, Yiu Fai	Leung Kau Kui and Run Run Shaw Research and Teaching Endowment Funds	HKU	50,000
Dr Cheung, Yiu Fai	Modulating effects of body defense molecule and inflammatory gene polymorphisms on arterial stiffness in Kawasaki disease	HKU	61,800
Prof CP Lau	Relationship between endothelial progenitor cells and markers of thrombogenesis and platelet activation in atrial fibrillation	HKU	61,800
Dr Li, Ronald	Molecular Physiology of Pacemaker Channels	NIH-USA	

Meeting our Targets

Aims for 2004

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 another Post-doctoral Fellow following the appointment of Dr. G.R. Li, who joined the Institute as a Research Assistant Professor in 2000. For the service, the homocysteine assay, which is being run on a cost-recovery basis, continues to be available to cardiologists by the ICSM. Donations were invited towards our research activities and to further increase the visibility of the ICSM, by holding press conferences to report our most interesting new findings and to see the award of grants and the publication of research papers attributable solely to the ICSM. All of these objectives were fully achieved during 2004. 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. A joint symposium with the CED was held in the 8th ICSM Annual Scientific Meeting and a representative from the CED was invited as the ICSM Council Member to facilitate the collaborative links. Flyers were sent out to the general public in order to introduce the ICSM and its research programmes, and to invite contributions towards our research funding. Press conferences were held in 2004, that result in a good number of media reports on ICSM research activities. The homocysteine assay was kept on available to cardiologists in Hong Kong.

Aims for 2005

Collaborations with other research groups

We aim to strengthen our links with groups working on geriatric medicine and diabetes, vascular biology, and regenerative biology and medicine so as to further increase our effectiveness in these areas. 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.

International collaborations

The ICSM has also been actively seeking international links for new research collaborations, joint scientific meetings and funding raising so as to promote research activities and to further increase the visibility of the ICSM internationally.

Service

The ICSM has been successful in making the homocysteine assay available to cardiologists in Hong Kong, and we plan to make available further diagnostic tests in the future.

ICSM Publications in 2004

Abstracts from the Eighth Annual Scientific Meeting (held in December 2004) were published as a Supplement to the July/October 2004 issue of the Journal of the Hong Kong College of Cardiology (Volume 12, Number 3/4).

Y Huang	Calcium and Vascular Smooth Muscle	85
George PH Leung	Role of Nucleoside Transporters in Vascular Smooth Muscle	85
RA Cohen, T Adachi	Oxidants Modulate Protein Function in Atherosclerotic and Diabetic Vascular Disease	86
Guo-Wei He	Endothelium-derived Hyperpolarizing Factor (EDHF) in Health and Disease	86
Paul M Vanhoutte	Endothelium-derived Contracting Factor in Health and Disease	87
Brian Tomlinson	The Future of Cardiovascular Disease Prevention—Lipid Management	87
Wai-Hong Chen	Devices Delivering Genes and Drugs	88
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DL Keefe	AKP's Rho-Kinase Inhibitor, Fasudil	89
JP Vilaine	Procorsalan®, a New Selective and Specific I_f Current Inhibitor	89
Xinghua Gu, Xifu Liu, Mingdong Zhou	Neuregulin and Treatment of Heart Failure	89
BMY Cheung	Treatment of Hypertension by Lifestyle Modification and Other Means	90
Sidney Tam	Interpretation of Lipid Profile in Common Lipid Disorders	90
Pui-Yin Lee	New Markers of Cardiovascular Disease	91
YL Kwong	Use of Stem Cells in the Treatment of Diseases	91
Hung-Fat Tse	Stem Cells Therapy for Angiogenesis	91
Y Shi, DD.Ku, RKY Man and PM Vanhoutte	Streptozocin-Induced Effects on Endothelium-dependent Responses In Rat Carotid And Mesenteric Arteries	92
Leonard Tam & HJ Ballard	The Influence of Acute, Chronic or Chronic Intermittent Hypoxia on NO Release from the Renal Circulation	92
MQ Dong, CP Lau, Z Gao, GR Li.	Effects of Protein Kinase Inhibitors on Cloned Human Cardiac I_{Ks} Expressed in HEK 293 Cell Line	93
N Li, JA Wang, L Dong, CY Jiang	Local Evidence for B-type Natriuretic Peptide as Predictor of Left Ventricular Systolic Dysfunction in Chinese	93

Min Wu, Ying-Ying Dong Anthony PC YIM, & Guo-Wei He	Effect of Heart Preservation Solutions EDHF-mediated Relaxation and Hyperpolarization in Small Porcine Coronary Arteries	93
Ying-Ying Dong, Anthony PC YIM, & Guo-Wei He	Hypoxia-reoxygenation in Cardiac Microveins: Combined Effect with Cardioplegia and Temperature on the Endothelial Function	94
YH Ma, and YM Chen	Role of Chloride in Modulation of Vascular Smooth Muscle Function	94
EHC Tang, M Feletou, Y Huang, RYK Man and PM Vanhoutte	Nitric Oxide Causes Long-term Inhibition of EDCF-mediated Contractions	95
K Wang, T Xue, SY Tsang, J Wong, L.Z. Cheng, GR Li, CL. Zhang, CP Lau, R.A Li, HF Tse	Electrophysiological Properties of Pluripotent Human and Mouse Embryonic Stem Cells	95
BMY Cheung, YL Wong	Utilisation of Antihypertensive Drugs in a Hypertension Outpatient Clinic in 1998 & 2004	96
S Tsang , S Wu, SSC Wong, R Das and TM Wong	Cross-talk between Testosterone and Adrenergic Eceptors in the Rat Heart	96
W Liang, C. van Breemen, X Wang	Comparison of Interacellular Calcium Responses in Normal and Rheumatic Human Valvular Myofibroblasts	97
Dingsheng Lin, Qixian Shan, Hongfeng. Jin, Yuan Lu, Qiang Xia	Endothelium-independent Vasorelaxant Effect of Lidocaine in Rat Aortic Rings	98
Li-ping Wu, Fang Shen, Qiang Xia	Diazoxide Reduces Brain Ischemia/Reperfusion Injury via Inhibiting Mitochondrial Permeability Transition Pore	98
Fang Shen, Li-ping Wu, Qian Shen, Qiang Xia	Intracerebral Administration of NS1619 Diminishes Ischemia and Reperfusion-induced Brain Injury	98
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Xiao-Hong He, Hui Yao, Qiang Xia	Involvement of Nitric Oxide in the Negative Inotropic Effect of Interferon-alpha in Rat Ventricular Papillary Muscle	99
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Ya-ping Wang, Hui-ping Wang, Ling-bo Qian, Qiang Xia	Effect of Interleukin-2 on Vascular Response of Rat Aortic Rings Exposed to High Concentration of Glucose	99

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XL Deng, HY Sun, CP Lau, GR Li	Protein Tyrosine Kinase Modulates Voltage-gated Delayed Rectifier Potassium Channels in Rat Mesenchymal Stem Cells from Bone Marrow	101
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SY Lam, GL.Tipoe, E. C. Liong, and ML Fung	Protein Expression of HIF-1 and Endothelin-1 in the Rat Carotid Body in Chronic and Intermittent Hypoxia	103
SW Seto, CN Chan, KM Choi, ALS Au and YW Kwan	Vasodilatory Effect of Adrenalone and 3,4-Dihydroxybenzaldehyde On Porcine Left Anterior Descending Coronary Artery	104
SW Seto and YW Kwan	Modulatory Effect by IL-1 β of U46619- and 5-Hydroxytryptamine-induced <i>in vitro</i> Contraction of Rat Isolated Basilar Artery	104
YM Lau, PY Tang, KY Lai, OY Wong, YW Kwan and KW Tsui	Down Regulation of β_3 -Adrenoceptor and Endothelial NOS Expression in Adipose Tissue of Genetically Diabetic Mice	105

Wei Guo, Wei-Min Xu, Yue-liang Shen, Li Zhu, Ying-ying Chen, Qiang Xia	Effect of Heme Oxygenase-1 on Hydrogen Peroxide Induced Vascular Hypo-responsiveness	105
YC Xu, SWS.Leung and RYK Man	Flavonoid, Kaempferol, a Compound Isolated From Chinese Medicine, Caused Directed and Potentiated Relaxation on Procine Coronary Arteries via Camp Pathway	106
He Huang, Jiang Shan, Hui-ping Wang, Xiao- hong Pan	Chronic Treatment of Carvedilol Improves the Depression of Inotropic Effect and Intracellular Calcium in Isolated Ventricular Myocytes from Streptozocin Induced Diabetic Rats	106
Qin Gao, Qian Shen, Wen Xu, Shi-zhong Zhang, Chun-Mei Cao, Qiang Xia	Transient Arm Ischemia Reduces Enzyme Release from Ischemic Contralateral Arm and Attenuates Tachycardia and Pressor Response to Exercise Challenge in Humans	106
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