

EFFECT OF VANADYL SULFATE IN BETA PANCREAS CELLS OF MICE WITH DIABETES MELLITUS

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The aim of this study is to examine biochemical and histological perspective, whether vanadyl sulfate has an effect on the beta pancreas cells of streptozotocin-induced diabetic mice. The diabetic model was elicited by twice intraperitoneal injection of streptozotocin 100 mg/kg followed with 50mg/kg on day 14. Diabetes occurred on day 21 after streptozotocin injection and glucose level raised from $162,2 \pm 21,3$ mg/dL to $184,3 \pm 27,1$. After the treatment of vanadyl sulfate once a day for 7 days, blood glucose level were reduce significantly (5 mg/kg, $p = 0,013$; 30 mg/kg, $p < 0,001$). On day 28 pancreas tissue harvest from normal mice, streptozotocin-induced diabetic mice and diabetic mice given vanadyl sulfate. Tissue sections were stained using hematoxylin-eosin and aldehyd fuschin. In pancreatic islet of diabetic group, a damage islet, decline islet size, degenerative and apoptosis beta pancreas cell was observed. While pancreatic of diabetic group given vanadyl sulfate showed amelioration in islet cell. Apoptosis beta cells were reduce, and proliferative cells were appear. Islet become intact and the size was increase closed on normal mice.

Keyword(s): vanadyl sulfate, streptozotocin, diabetes mellitus, islet, beta cell

Second Collaborative Conference

Life Science :

**SYNERGY FOR ENHANCEMENT OF
QUALITY OF LIFE**

**UNIVERSITAS AIRLANGGA, INDONESIA
10-11th FEBRUARY 2009**

**PROGRAMME
and
ABSTRACT BOOK**



UNIVERSITAS AIRLANGGA



USM

UNIVERSITI SAINS MALAYSIA



Welcome Message

MESSAGE FROM THE RECTOR OF AIRLANGGA UNIVERSITY

Assalamu'alaikum warahmatullahi wabarakatuh

Praised be to Allah swt for His love and compassion that we all are given the opportunity to gather and meet in the second collaborative conference held at Airlangga University, Surabaya, East Java, Indonesia.

It was two years ago that we all gathered in a conference and discussed various scientific research results at USM, Malaysia. After a successful and meaningful achievements, we then decided to continue our collaborative research activities which all of us believe will give benefits to people throughout the world.

The decision in maintaining such collaborative activities is important in building relationship among us and all nations in the era of globalization. It is through internationalization of all aspects, which include economy and communications, all of us are able to survive and win the competition in the globalization era. Internationalization itself is a process of integrating an international perspective into a college or university system. Such perspective will ensure us to achieve international standards, maintain competitiveness and appreciate the ethnic and cultural diversity of one's nation.

More over, this conference provides a great opportunity for educators and researchers to build better communications. A better communication in a college or university is one of the best ways to share experiences on various issues which could enhance the future performance of university graduates.

I believe, that all we have been doing will, Insyah Allah, contribute to the synergy of the development of life sciences for the enhancement of the quality of life.

In this special event, allow me to acknowledge all participants of the conference, that Airlangga University is greatly honored to be chosen as the host of this important gathering.

May I take this opportunity to thank all of you for coming to the conference and hope that this is a fruitful and enjoyable experience.

I thank the organizing committee for a wonderful work that make the conference a success.

Lastly, I wish all of you a good time during your stay in Surabaya.

Wassalamu'alaikum warahmatullahi wabarakatuh

With my best regards,

Prof. Dr. H. Fasich Apt.
Rector

MESSAGE FROM THE VICE CHANCELLOR UNIVERSITI SAINS MALAYSIA PENANG, MALAYSIA

It gives me a great pleasure to extend my sincere and warm welcome to the participants of the Second Collaborative Conference UNAIR-USM 2009, which now is held at the Universitas Air Langga Campus, Surabaya, Indonesia. On behalf of the Universiti Sains Malaysia, let me congratulate all of you for organizing and participating in this biannually conference.

As USM now has been declared as an APEX (Accelerated Programme for Excellence) university of Malaysia, it is our vision to move forward with our transformation plan entitled "Transforming Higher Education For A Sustainable Tomorrow", while keenly USM will promote values such as accessibility, availability, affordability, equity and quality as the optimal endpoints. USM also will embrace the protection of the ecosystem, the conservation and restoration of resources as well as the development of human and intellectual capitals for this purpose. Furthermore, USM also will focuses more on research, among other things on diagnostics, medical biotechnology, waste management, pharmaceuticals, industrial biotechnology, nano technology, carbon nanotubes, membrane technology and vaccinology, for the betterment of life.

Therefore, I am really looking forward for this kind of conference where the academicians and research scientists from both countries can discuss and further developed collaboration and finally will come up with products that can be commercialized and used by the people, our people. I think, it is time for both countries to generate income from our research products. With the knowledge, hard working, talent, natural resources and commitment, I do not see any obstacle for us not to be an important player in global business especially in the field of pharmaceuticals and biotechnological products.

It is my vision and hope that this conference will generate overwhelming interest and I am sure the participants especially students who will become young (budding) scientists will focused diligently on the serious issues concerning important environmental issues and steps needed to be taken towards a sustainable development and management of our natural resources and environment within us. In view of the current global scenario, it is important to highlight sustainable development and sustaining natural resources, no matter how advance our researches are.

Finally, let me congratulate all of you once again for organizing and participating in this conference. I hope that new friendship and fruitful collaboration will be forged, and for USM's delegates do not forget to relax a bit by visiting nice places that Surabaya can offers.

Thank you.

Y. BHG. Tan Sri Dato' Dzul kifli Abdul Razak
Vice Chancellor Of USM

MESSAGE USM REPRESENTATIVE ORGANIZING COMMITTEE

It is indeed an honor for me as chairperson for Malaysia delegates from Universiti Sains Malaysia and few other places to be in UNAIR to celebrate and participate in the Second Collaborative Conference between the two Universities.

This conference is one of the many activities that are planned between the universities to improve our collaboration in research, education and other social activity that create awareness among the community regarding healthcare issues. School of Pharmaceutical Sciences USM, for instant has taken steps to strengthen the community contribution by having "Farmasi Peduli Desa" last year together with our partner, UNAIR.

This kind of collaboration will definitely improve our understanding regarding healthcare among the unfortunate one. This year, the students and staff exchange program, collaborating research and new finding in pharmaceutical areas, biology and technology industry will shift us into another paradigm for improvement. This conference, for instant will gather man staff and postgraduate students in various fields to present their finding and hoping by having all this elements new dimension of research and education will be created for betterment of human needs.

We also need to amplify our role in educating community regarding sustainability in health and promotes better way of living in this new era of hunger and damaging world. By adopting the blue ocean strategy, sustainability will be part of our culture. I sincerely hope that both universities will lead in sustainability in Pharmaceutical Care, Biological and Industrial Technology research and manufacturing in this region as we strongly believe in protecting our future, the future of our generation which also equates to the future of this dying planet. Last but not least once again I must commend the effort and enthusiasm of faculty members of UNAIR in making this event a success conference. We will meet again next year in Penang, Malaysia.

Best regards,

Prof. Dr. Syed Azhar Syed Sulaiman
Chairman Of Malaysia Delegates.

UNAIR-USM SECOND COLLABORATIVE CONFERENCE LIFE SCIENCE : SYNERGY FOR ENHANCEMENT OF QUALITY OF LIFE

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