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India, Sweden start four joint research projects in tuberculosis

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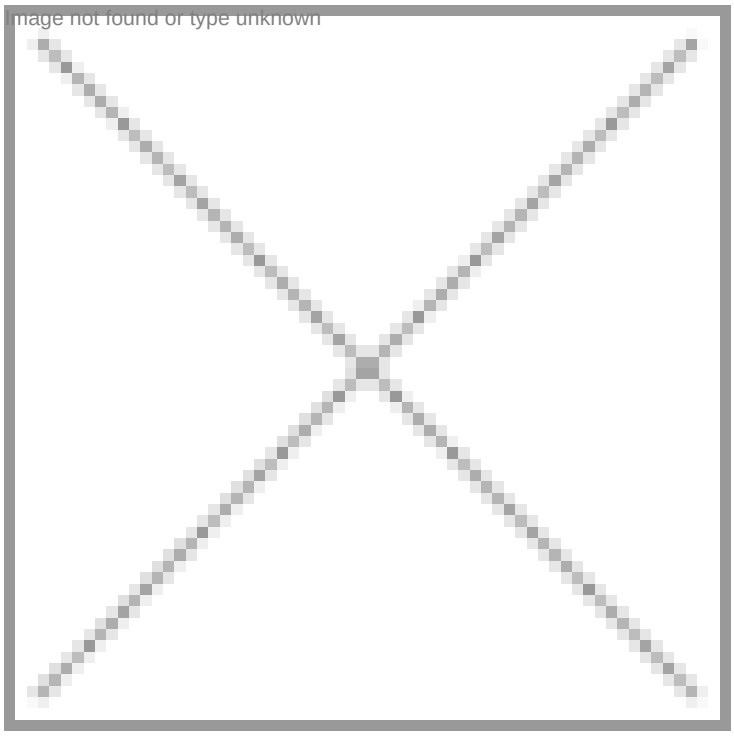

India, Sweden start four joint research projects in tuberculosis

The Department of Biotechnology (DBT) and Swedish Governmental Agency for Innovation Systems (VINNOVA), will initiate four joint research projects in the field of biology, diagnosis and treatment of tuberculosis. While the DBT has allocated around Rs 5 crore for the project, the Swedish government has earmarked $1 million (about Rs 4.79 crore) for this top level research co-operation between India and Sweden.

Under this research co-operation agreement between the two countries, four Indo-Swedish projects, out of a total of 15 proposals, have been selected by DBT and VINNOVA for funding in the next three years.

The four joint research projects that started from September 2009, include doctor's office, diagnostic instrument for detection of Mycobacterium tuberculosis (M. tuberculosis) in the field conditions adapted for use by unskilled personnel; mechanisms of protein synthesis and ribosome targeting antibiotic drugs in mycobacteria; biology of gene-deleted M. tuberculosis strains - immunological marker profiling; and structure-guided design of new antibacterial agents against dormant M. tuberculosis.

In June 2009, both the Department of Biotechnology, Ministry of Science and Technology, and Swedish Governmental Agency for Innovation Systems, agreed to support top level research co-operation between Indian and Swedish scientists in the field of biology, diagnosis and treatment of tuberculosis.

The program is one of the first bilateral co-operations, based on joint funding, between the two countries. Under this scheme, VINNOVA will fund the Swedish research teams and DBT will fund the Indian side.

Fairbanks Institute selects BioServe for diabetes study

BioServe, a provider of clinical biosamples and research services with operations in India and the US, has been selected by the Fairbanks Institute for Healthy Communities to process all biological samples for its landmark longitudinal study of type II diabetes.

This is the second phase of the Indiana Health Study, a community-based research initiative using Central Indiana population. According to Fairbanks, the study participants creates a research platform that will lead to the development of

new drugs and diagnostics for chronic diseases such as heart disease, cancer and diabetes.
BioServe is currently processing samples for the first study of coronary artery disease that commenced in 2008. Dr Cynthia Helphingstine, president and CEO, Fairbanks Institute, said, “Extending our relationship with BioServe for this important phase II study on type II diabetes was an easy decision.”
Rama Modali, president, BioServe, said, “We are excited to continue to be working with The Fairbanks Institute to further understand the dynamics between chronic diseases, genetic polymorphisms and environmental risk factors that increase the risk of disease.”

Scientists unravel secret of youthful skin

Scientists from Singapore and Germany have made a novel discovery that might lead to ways of reversing the effects of ageing and wrinkled skin. The international team of scientists led by Dr Bruno Reversade from A*STAR’s Institute of Medical Biology (IMB) discovered that mutations in the PYCR1 gene cause a rare genetic condition which results in premature skin ageing, known as ‘wrinkly skin syndrome’. Their findings, which were published in the September issue of the journal, Nature Genetics, provide insight into how some unexpected genes help maintain youthful skin. This research project is said to have involved collaborations with over 15 hospitals and research centers in 13 countries.
Using bioinformatics tools, Dr Reversade and his team analyzed rare DNA samples collected from affected patients, who ata young age, displayed signs of premature ageing. They identified the PYCR1 gene on chromosome 17 of these patients to be defective and found specific mutations in the gene that led to conditions often seen in elderly people, such as loose skin, loss of bone density, hip dislocation and cataract. Furthermore, they determined that skin and bone were the two tissues most severely affected in patients. As skin and bone contain high levels of the PYCR1 protein under normal circumstances, developing therapies that could increase the activity of the PYCR1 protein could possibly reverse the process of ageing in affected individuals or slow it down in normal people.
The scientists also found that inside cells, the PYCR1 protein is located in the mitochondria. In their experiments, they observed changes in mitochondrial morphology and cell death in the connective tissues of individuals with PYCR1 mutations.