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Avesthagen sequences Parsi gene

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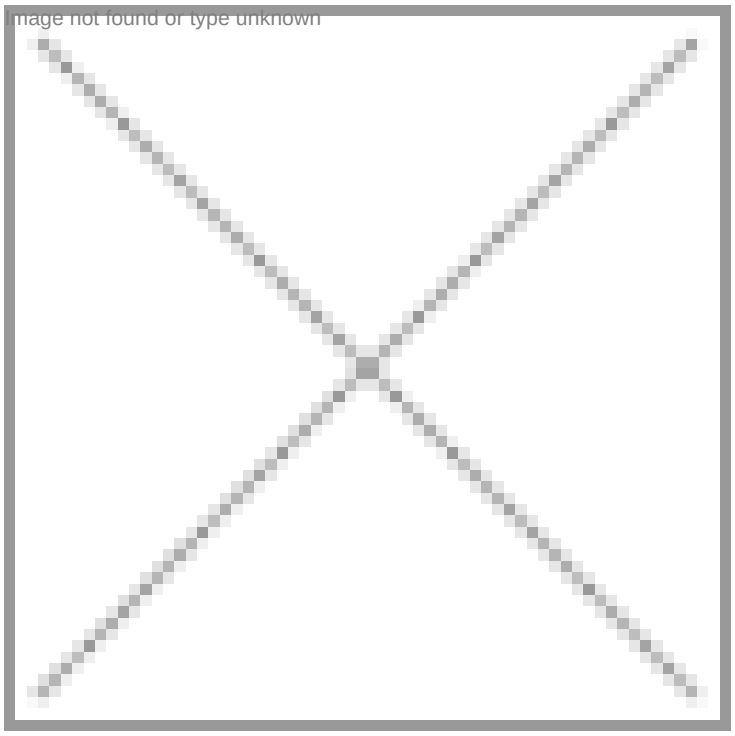
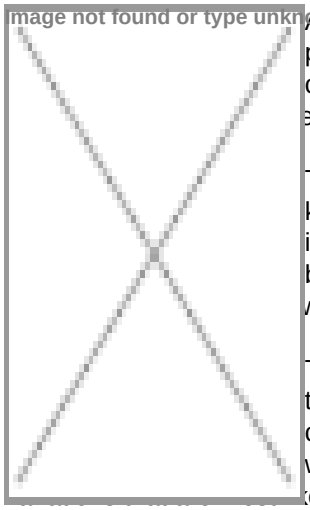




Avesthagen, India's leading integrated systems biology platform company, has established its position as a key player in the successful application of next-gen technologies as it announces the completion of the first Parsi breast cancer whole genome sequence of a 74-year-old Parsi woman east cancer.

The incidence of breast cancer in most populations is strongly linked to a genetic base but little is known about the variants at the present time. By employing whole-genome sequencing of affected individuals all genetic variants linked to the disease can be identified. This expected to lead to a broader understanding of breast cancer disease mechanisms, development of new diagnostic w drug targets and drug designing.

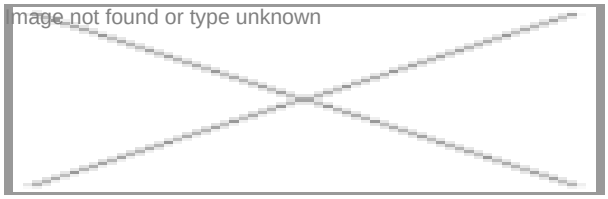
The Parsis are a distinct minority population living in India and around the world with unique traits that include longevity, but also predispositions to certain diseases, including breast cancer. By comparing the genomes of Parsi individuals affected by breast cancer to healthy individuals, both within the community and in the general population, scientists will be able to identify those tely to be responsible for breast cancer.

This study is part of the Avestagenome project, a systems biology-based study on the Parsi population to determine the genetic basis of longevity and age-related disorders. The whole genome sequencing is being carried out in partnership with The Genome Analysis Center (TGAC), UK.

DBT, NIH strengthen research ties

To enhance the existing collaboration between neuroscience researchers in India and US, the Department of Biotechnology (DBT), Ministry of Science & Technology, Government of India, has announced a new Indo-US Brain Research Collaborative Partnerships (BRCP) program. This is based on the joint statement signed by the DBT with the National Institute of Health (NIH), US. The purpose of the BRCP program is to support bilateral research collaborations between Indian and US investigators in the field of neuroscience, with an emphasis on understanding, treating and curing neurological, mental and addictive disorders.

Specific areas of research may include studies of mechanisms underlying neurological, mental and addictive disorders and diseases, planning for population-based research and clinical trials, development of infrastructure for resource, tool and data sharing in addition to projects aimed at advancing global health research, particularly as it relates to the mission of the participating organizations. The condition put by the DBT/NIH is that the collaboration must involve Indian investigator(s) from an Indian institution and at least one investigator from the US institution. Successful proposals will include a well-presented justification for the bilateral collaboration, and detailed experimental approaches that will be completed by each component.



Dabur Research ties up with Premas

Dabur Research Foundation and Premas Biotech have announced a strategic global initiative to deliver an end-to-end solution in the area of preclinical drug discovery and development to their customers.

The alliance combines the services offered by both the organizations to cover the entire range of solutions in preclinical drug discovery and development, manufacturing and toxicity profiling. The goal for both the organizations is to be able to provide their customers, both nationally and globally, a turn-key solution in their niche space of operation. The two organizations will be able to provide more comprehensive solutions to the clients as a single work-flow for the development of potential vaccines, biosimilars and bio-therapeutics.

CSIR to set up drug research center

In mid-January, the Indian Cabinet Committee on Economic Affairs approved the proposal from the Council of Scientific and Industrial Research (CSIR) for the revised cost estimate of its project of setting up a world-class drug research institute in Lucknow, Uttar Pradesh. The estimated cost of the project has been increased from $42 m (190 crore) to $70 m (322 crore). The project that took off in August 2007 is likely to be completed by March 2011.

The state-of-the-art labs of the institute will enhance competitiveness in all disciplines. The proposed facility would generatea world-class infrastructure to nurture research and innovation in the area of drug discovery and development and benefit all sections of the society.

ABLE-AG questions report on Bt cotton

The Agricultural Group (AG) of the Association of Biotechnology Led Enterprises (ABLE) has questioned the validity of the recently published research paper in the scientific journal, Current Science. The article in question was titled, 'Survival and reproduction of natural populations of Helicoverpa armigera on Bt cotton hybrids in Raichur, India' and has three joint contributors. Besides Mr MT Ranjith and Mr A Prabhuraj from the University of Agriculture Science, Raichur, the research also involved Mr YB Srinivasa of the Institute of Wood Science and Technology, Bangalore.

According to the report, the researchers discovered individuals of helicoverpa armigera, the most prominent among bollworms in India, surviving on commercial Bt-cotton hybrids containing single (Cry1Ac) and double (Cry1Ac and Cry2Ab) genes in experimental plots of the University of Agricultural Sciences, Raichur.
However, while expressing its reservations, ABLE-AG observed that the study featured in December 2010 issue of the journal did not probe whether the bollworms survived because they have turned resistant to the toxin in the GM cotton plants or because the amount of the toxins in the plants are below a minimum level needed to kill the insects.

The industry association believes that the results of the study seem to be preliminary in nature, and therefore can neither be used to generalize nor to extrapolate to all Bt crop technologies. It has emphasized that study must be repeated rigorously to really come to any scientific conclusion. However, ABLE-AG agreed that the results indicated the need for constant monitoring for the efficacy and durability of the technology and said that it has been equally emphasized by technology

developers.

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World’s first human progeria model

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Scientists from A*STAR’s Institute of Medical Biology (IMB) in Singapore and the University of Hong Kong’s Department of Medicine have produced the world’s first human cell model of progeria, a disease resulting in severe premature aging in one in four-to-eight million children worldwide. This model has allowed them to make new discoveries concerning the mechanism by which

Hutchinson-Gilford Progeria Syndrome, also known as progeria, is caused by a mutation in the gene encoding for the protein lamin A, an important component of the membrane surrounding a cell’s nucleus. The mutation results in a truncated form of lamin A called progerin, which in turn causes misshapen cell nuclei and DNA damage.

Children with progeria suffer symptoms of premature aging, including growth retardation, baldness, and atherosclerosis (hardened arteries), and all die in their early teens from either heart attack or stroke.

Led by IMB’s Professors Alan Colman and Colin Stewart, the team used a novel technique of deriving induced pluripotent stem (iPS) cells from cells of human progeria patients. This human progeria model allows the group to trace and analyze the distinctive characteristics of progeria as it progresses in human cells.

CEL-SCI starts ph III cancer trial

Virginia-based US pharma company CEL-SCI Corporation has commenced its phase III clinical trial for Multikine, the company’s flagship immunotherapy. CEL-SCI has now completed all of the manufacturing and regulatory requirements to begin enrollment of the study. The goal of this study is to establish Multikine as a first-line standard-of-care therapy in treating newly diagnosed head and neck cancer patients. The trial is believed to be the largest head and neck cancer study ever conducted and is called Immunotherapy Multikine Anti Tumor Treatments (IT-MATTERS).

The company expects to enroll approximately 880 patients at about 48 clinical centers in nine countries (US, Canada, Hungary, Poland, Ukraine, Russia, India, Israel and Taiwan) in the IT-MATTERS trial. CEL-SCI partners Teva Pharmaceuticals and Orient Europharma will conduct parts of the phase III study in Israel and Taiwan respectively. All study sites, including those in Israel and Taiwan, are under the control of CEL-SCI’s global clinical research organization.
CEL-SCI’s phase III clinical trial is an open-label, randomized, controlled, multi-center study designed to determine if multikine administered prior to current standard-of-care used for the treatment for naive subjects with advanced primary squamous cell carcinoma of the oral cavity will result in an increased overall rate of survival versus the subjects treated with standard-of-care only. It will also be the first trial in which immunotherapy will be administered before any other traditional means of care are attempted.

Cancer Research, AstraZeneca collaborate to treat cancer

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Cancer Research UK’s drug development office (DDO) has signed a strategic combinations alliance with AstraZeneca, a global player in pharmaceuticals, to take combinations of experimental cancer drugs into

This will increase patient access to trials of potential new cancer treatments that combine molecularly targeted experimental drugs developed and owned by AstraZeneca. The trials will also test these combinations alongside conventional chemotherapy, radiotherapy and

It is hoped that combination therapy using a number of molecularly targeted drugs may decrease the chance of patients developing resistance to any individual drug. This is because different types of drugs

attack the faults in cancer cells at different points.

The trials will be managed by the Cancer Research UK/ UK Health Departments Experimental Cancer Medicine Center (ECMC) Network at hospitals across the UK with support from Cancer Research UK's DDO. AstraZeneca will provide access to its drugs to be trialled through the alliance as well as additional financial support.

The charity will also hold workshops with the ECMC Network and AstraZeneca to identify promising combinations of experimental treatments to trial.

Ms Kate Miller, head of the combinations alliance at Cancer Research UK's DDO, said, "We are delighted to be collaborating with AstraZeneca through the combinations alliance. This initiative will provide a boost to the UK research community in developing exciting new combination therapies and will mean that more UK patients will be able to take part in important clinical trials of potential new treatments."

Prof Andrew Hughes, vice president, Oncology Clinical Innovative Medicines, AstraZeneca, said, "As we further understand the heterogeneity of cancer, we not only need to redefine the disease but also our solutions to it with the ultimate aim of restoring patients' lives. The collaboration with Cancer Research UK and the ECMCs provides a key opportunity to redefining our solutions to cancer through combination treatments."

Cancer Research UK and the ECMC Network have established clear processes to run early phase combination clinical trials through the ECMC Network. This includes peer-review of the scientific data and trial endorsement through Cancer Research UK's New Agent's Committee.

Researchers find ways to attack breast cancer

Scientists at the University of Michigan Comprehensive Cancer Center, US, have identified a potential new way of attacking breast cancer stem cells, the small number of cells in a tumor that fuel its growth.

Researchers found that breast cancer stem cells are regulated by a type of cell derived from bone marrow, called mesenchymal stem cells. These cells are drawn from the bone marrow to the cancer and create a 'niche' for the cancer stem cells, allowing them to replicate.

"The findings of the research help to find ways to attack breast cancer stem cells indirectly by blocking these signals from the niche," said study author Mr Max S Wicha, distinguished professor of oncology and director of the University of Michigan Comprehensive Cancer Center.

Breast cancer stem cells were first identified by Mr Wicha and colleagues at the University of Michigan in 2003. Cancer stem cells are believed to be resistant to current chemotherapies and radiation treatment, which researchers say may be the reason for the reappearance of cancer after treatment.

Little is known about the cancer stem cell niche – a type of microenvironment that is highly associated with tumor growth and metastasis. The researchers looked at mesenchymal stem cells, which arise in bone marrow, and found that breast cancers in mice sent out signals that attracted mesenchymal stem cells from the bone marrow into the tumor where these cells interacted and stimulated the growth of breast cancer stem cells.