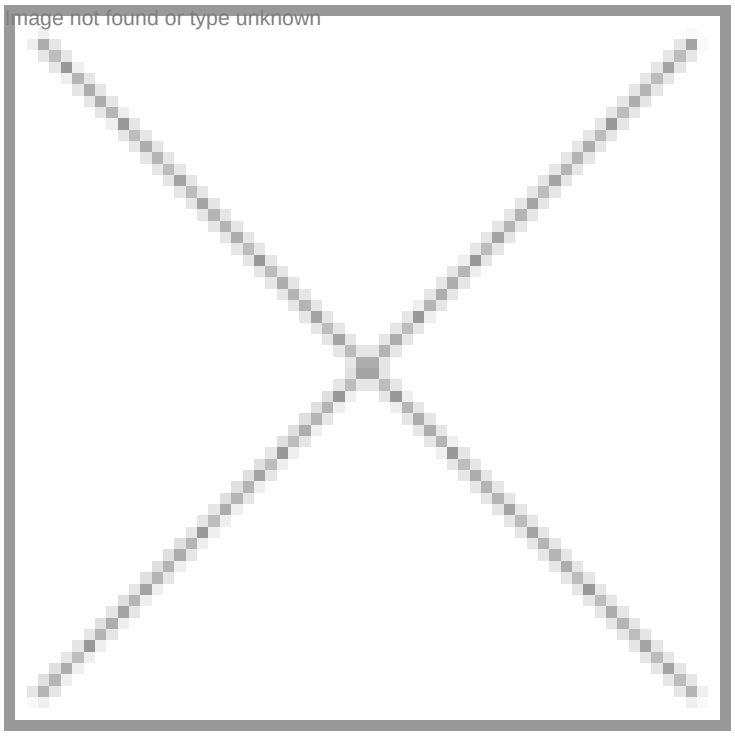
BioSpectrum the business of Bio & Health Sciences

Nanomaterials to cure corneal blindness

14 November 2011 | News



A novel nanomaterial-based technology to solve corneal blindness due to endothelial diseases has been developed by an Indo-Japan consortium of stem cell scientists and nanomaterial experts. Dr Kazutoshi Haraguchi, director, Kawamura Institute of Chemical Research, Japan, presented this on the sixth anniversary of Nichi-In Centre for Regenerative Medicine, The NCRM NICHE 2011. These findings give a lot of hope to thousands of patients in India and other developing nations who suffer from isolated corneal endothelial disease, according to Dr Parikumar, an ophthalmologist and associate of NCRM.

The present methodologies use one-donor eye for treating one patient eye, whereas our novel nanomaterials are capable of multiplying the corneal endothelial stem cells in the lab, and by using a nanosheet, they can be safely applied to the eye as proven in animal studies. The cells taken from one donor can be multiplied and could be used to treat more than one eye making this a revolutionary phenomenon called â€œan-eye-for-eyesâ€?, said Dr Abraham, director, NCRM. The lecture by Dr Haraguchi was in commemoration of the International Year of Chemistry 2011.

India to double R&D expenditure

India has decided to double the expenditure in research and development with major initiatives being taken by the country in super computing, material sciences, genomics, nano sciences and plant breeding techniques and synthetic biology. Minister of State for Science & Technology Dr Ashwani Kumar revealed the plans of the Indian government to double its R&D expenditure at the eighth annual meeting of STS Forum on Science & Technology in Tokyo.

Borlaug Institute comes to India

Named after Nobel laureate Dr Norman E Borlaug, the Borlaug Institute for South Asia (BISA) will be an internationalinstitute

focussed on agricultural research and expected to attract R&D investment in the country. Indian agricultural research is set to receive a boost with the institute to be established by Mexico-based International Maize and Wheat Improvement Centre (CIMMYT). It will have centers in India at Ludhiana in Punjab, Pusa (Samastipur) in Bihar and Jabalpur in Madhya Pradesh.

The project was officially launched by Agriculture and Food Processing Industries Minister Sharad Pawar on Oct 05, 2011, at New Delhi. Dr S Ayyappan, secretary of the Department of Agricultural Research and Education, and director general of the Indian Council for Agricultural Reserach and Dr Thomas A Lumpkin, director general, CIMMYT signed an MoU.

The collaboration between two organizations will be intensified and defined through five-year 'Work plans for Scientific and Technical Partnership on Maize and Wheat Systems'. Funding and in-kind support will come from the Government of India and a consortium of international and regional, public and private investors.

IVRI scouts for industry partners

To meet the increased demand for the livestock vaccines and diagnostics in the country and the region, Indian Veterinary Research Institute (IVRI) has decided to transfer technologies developed by its researchers. The IVRI is looking for experienced companies interested in commercial production and marketing of its technologies and ensuring the availability of these vaccines and diagnostics for large-scale use.

Along with bacterial and viral vaccines, the technologies available for transfer include diagnostic tools. Among the bacterial vaccines ready for transfer are multiple emulsion HS vaccine, Enterotoxiemia vaccine, Brucella abortus cotton strain-19 vaccine, Brucella melitensis vaccine, and Saponified haemorrhagic septicaemia (HS) vaccine. The viral vaccines include the live attenuated homologous Peste des petits ruminants (PPR) vaccine, Vero cell based goat pox vaccine, Vero cell based sheep pox vaccine and Swine fever virus cell culture vaccine.

The various diagnostic tools developed by IVRI include the Tuberculin PPD, Mallein PPD, Johnin PPD, Brucella abortus â€“ SAT, Brucella abortus â€“ MRT, Brucella abortus â€“ RBPT, Brucella abortus â€“ Positive serum, Salmonella reagents, Caprine pleuropneumonia diagnostic kit, monoclonal antibody-based sandwich ELISA kit for PPR virus antigen detection and monoclonal antibody based competitive ELISA kit for PPR virus antibody detection, among others.