

SA scientists generate stem cells from adults

CAPE TOWN: Scientists in SA have generated non-embryonic stem cells for the first time, the Council for Scientific and Industrial Research (CSIR) announced on Tuesday (20 March 2012). These "induced adult pluripotent stem cells" were developed from adult skin cells and can be prompted to grow into any type of adult cell, such as those in the heart or brain.



The technology is important for research into regenerative medicine, but is not yet widely used.

While the technology is not novel, the development of the capacity to grow these stem cells in SA is important for researchers investigating diseases affecting Africans, said CSIR post-doctoral fellow Janine Scholefield. The CSIR had replicated techniques devised by Japanese researchers in 2007.

"Cutting-edge medical research is not useful to Africans if knowledge is being created and applied only in the developed world," said CSIR head of gene expression and biophysics Musa Mhlanga. "Given the high disease burden in Africa, our aim is to become creators of knowledge, as well as innovators and expert practitioners of the newest and best technologies," The CSIR said that adult-generated stem cells were more acceptable to people who objected to using stem cells from embryos.

"The other critical thing is the cells (that will be grown) are an exact genetic match to the person who donated the skin cells, so we can circumvent the problem of tissue rejection," Dr Scholefield said.

"We can also develop models of disease in a petri dish in the laboratory," she said, explaining that this would enable researchers to investigate rare diseases without the need for human subjects.

"We are getting closer to using stem cells as part of routine medical practice, but are still a long way off from using these cells for degenerative diseases of the central nervous system," said Michael Pepper, professor of immunology at the University of Pretoria.

Prof Pepper said there were several hundred clinical trials using stem cells under way around the world, but most were still at an early stage.

At present, the only universally accepted and routinely practised medical application of stem cells is bone marrow transplants, he said.

Source: Business Day

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