

# Japanese stem cell researcher wins top award

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Professor Shinya Yamanaka of the Institute for Frontier Medical Science, Kyoto University, attends a press conference at the Foreign Correspondents' Club of Japan in Tokyo 2008. Yamanaka was Friday honoured with a Spanish award worth 400,000 euros (\$544,000) for his pioneering work on cell reprogramming.

Japanese scientist Shinya Yamanaka was Friday honoured with a Spanish award worth 400,000 euros (\$544,000) for his pioneering work on cell reprogramming.

Yamanaka won the BBVA Foundation Frontiers of Knowledge Award in Biomedicine, the foundation announced.

The former orthopedic surgeon made his breakthrough discovery in 2006 when he succeeded in generating "induced pluripotent stem (iPS) cells", or those capable of growing into other tissues in the body.

Until Yamanaka proved differently, scientists believed that this could only be achieved with [stem cells](#) harvested from embryos, the foundation said in a statement.

"The jury emphasised the exciting new vistas these cells open up for both basic and clinical research, with personalised therapies and more precisely targeted drugs," it added.

"The possibility of working with iPS cells derived from patients themselves will avoid treating patients as guinea pigs. It will allow novel cell-based [screening methods](#) to be used to search for small [molecule drugs](#) to treat a wide range of diseases.

"And, ultimately, it may also allow novel and even patient-specific cell-based treatments, in particular for degenerative disease."

Yamanaka said the idea of reversing the fate of already specialised cells, then a "no-can-do" in biology, came to him when studying the experiments that produced the first cloned frogs, in the 1970s, and Dolly the sheep in 1996, according to the foundation statement.

"From their work I learned that we should be able to convert [somatic cells](#) back into their embryonic state. That is what inspired me to start my project," said Yamanaka, 48, the director of the Centre for iPS Cell Research and Application at Japan's Kyoto University.

The BBVA Foundation Frontiers of Knowledge Awards, established in 2008, recognise research and artistic creation in eight categories.

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