

BIOMEDICINE

Scientists target embryo limits

South Korean researchers look to work on human cells.

BY MARK ZASTROW

More than a decade after a fraud scandal in stem-cell science rocked South Korea, scientists in the field are ramping up pressure on the government to relax the country's strict regulations on human-embryo research — which many researchers say is tantamount to a ban.

On 30 August, the nation's bioethics committee held a public forum with the Ministry of Health and Welfare in Seoul, inviting researchers and scholars to discuss possible changes to the country's bioethics policies for research.

"We need to revise the relevant laws and institutions urgently," Jin-Soo Kim, a genome engineer at the Institute for Basic Science in Daejeon, South Korea, said at the forum. He points out that the regulations were made before the advent of gene-editing tools such as CRISPR-Cas9. In South Korea, such tools cannot be used in human embryos.

Some bioethicists are warning against changing the law without public consultation. Before the forum, local media reported that a separate, government-convened panel of researchers, ethicists and religious scholars was on the verge of recommending that the government lift its restrictions on human-embryo research. But the health ministry's bioethics division told *Nature's* news team that there is no plan to revise the current regulations.

In 2005, South Korea restricted research on human embryos to scientists who are granted a licence from the national bioethics committee. A team led by Woo Suk Hwang, then at Seoul National University, was initially the only one granted approval. In 2006, investigators determined that Hwang had fabricated some results and he was later convicted of embezzlement and bioethics violations.

Approvals for new research effectively ceased, say researchers. Since then, only one team — led by Dong Ryul Lee, a developmental biologist at CHA University in Seoul — has received a licence for embryonic-stem-cell projects. Lee says he must do much of his work abroad. In South Korea, his team can use only surplus eggs from *in vitro* fertilization; these are not ideal because they have been frozen.

It could take years to change the regulations, says Kim, but "it seems that the public hearing is a step forward for a long journey." ■



David Davis (left) is negotiating Britain's exit from the European Union.

FRANCOIS LENOIR/REUTERS

In January, the government listed science as one of its 12 priorities for Brexit negotiations, but it has said little about what this would mean in practice. UK institutions currently receive around €1 billion (US\$1.2 billion) in funding every year from EU programmes, mainly from the huge Horizon 2020 funding programme, the latest of the EU's research-funding 'Framework Programmes' (see 'British bonanza'). Freedom-of-movement rules have allowed academic staff — currently more than 30,000 — from other EU countries to move to UK universities and live and work without visas.

The document — one of a series outlining the government's position in negotiations with the EU — confirms that the United Kingdom would like to remain party to Horizon 2020 and any successor schemes. It would "welcome discussion" about continued UK participation in these, as well as in research-and-development programmes relating to space, nuclear energy and defence.

But it warns that any payments that the United Kingdom would have to make to remain involved in such projects would be weighed "against other spending priorities". It also says that, although EU citizens will lose the automatic right to come and work

in the United Kingdom, the country "will continue to welcome the brightest and best".

OVER THE HORIZON

Ministers have previously declined to say whether they would seek to keep the United Kingdom in EU schemes such as Horizon 2020. How much Britain might have to pay if it were to join a successor to Horizon 2020 would have to be negotiated. Several non-EU countries have joined the Framework Programme as 'associated countries'. That allows their researchers to apply for grants, but it also involves the nations paying a proportion of the programme's budget, based on a ratio of their gross domestic product to the EU's. On the basis of those rules, Britain might expect to pay between £1.8 billion and £2 billion to rejoin the scheme.

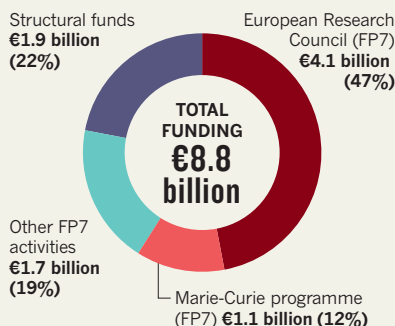
Edward Whiting, director of policy at the Wellcome Trust in London, praises the plans for addressing the ability of researchers to move to the United Kingdom, but he says it will be important for the government to think beyond researchers with established careers when they look for the "brightest and best". Younger researchers and support staff are also crucial to science, he points out, and these scientists may fall foul of immigration controls, such as the need to earn above a certain salary.

To attract the "brightest and best", Britain is touting a new £100-million 'Rutherford Fund', which will provide fellowships for researchers to move to the country. But James Wilsdon, who studies research policy at the University of Sheffield, notes that the current EU system allows, for example, an Italian scientist with a grant from the European Research Council to move to Britain with her grant, her partner and her children. Allowing a researcher to come to the United Kingdom is not enough, he says, if that person's family would have to be left behind.

"The upside of the European system in mobility terms is clearly that it's very flexible in terms of movement of you and your partner and your kids," says Wilsdon. "Scientists are not these people who only sit there doing science. This is real life." ■

BRITISH BONANZA

The EU spent €8.8 billion on UK-based research, development and innovation between 2007 and 2013 — mostly through its last Framework Programme, FP7.



SOURCE: EUROPEAN COMMISSION