Nature | **Correspondence**

Comment on:
Austin Smith: **'No' to ban on stem-cell patents**
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Søren Holm said:

Patenting and stem cell pluripotency

In their correspondence to Nature, Austin Smith and 12 co-signatories criticize a recent recommendation made by the advocate general of the European Court of Justice with respect to a ban on patenting human embryonic stem cells (ESC) (A. Smith Nature 472, 418; 2011). They present two main arguments: (1) Human ESC are widely in use and are still needed as a reference in stem cell research; and (2) patents provide an incentive for the stem cell industry.

Of these arguments the first is clearly the stronger, since financial arguments on their own are only weak ethical arguments. Moreover their criticism overlooks one of the properties of ESC and induced pluripotent stem cells, iPSC. Both iPSC and ESC possess the peculiar property of enabling direct cloning of individuals (at least in the mouse, using tetraploid complementation, TC), a fact that forces us to declare the use of this technology ethically unacceptable with human cells (H.-W. Denker Nature 461, 341; 2009). Any human cell possessing this developmental potential cannot be considered patentable. This holds true no matter whether TC capability has been shown for a cell line or whether it is only likely to have this capability since it fulfils other tested criteria of pluripotency. The ethical implications of TC capability touch upon aspects of individual rights (personal identity, reproductive rights, inheritance) and dignity which are at risk because, at a time of globalization and wide spread of cells and technologies, these interests cannot be secured by national or European legislation.

It has been argued that progress in developmental biology offers ways in which the patenting problems presented by the potentiality of the cells can be circumvented (H.-W. Denker Reprod. Biomed. Online 19, suppl. 1, 34-37; 2009). Recent publications reporting successful derivation of stem cells with restricted developmental potential are lending support to this (Kim et al. Proc. Natl. Acad. Sci. USA, Epub ahead of print, Apr. 26; 2011). In conclusion, to consider the developmental potential of cells in arguments about patenting does not necessarily create new restrictions but on the contrary can open the way for research that offers escapes from the patenting dilemma.

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