

## Human Embryonic Stem Cells

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The recent trial in the press of the ethics and scientific validity of publications on human somatic cell nuclear transfer ("Evidence of a pluripotent human embryonic stem cell line derived from a cloned blastocyst," W. S. Hwang *et al.*, 11 Mar. 2004, p. 1669; "Patient-specific embryonic stem cells derived from human SCNT blastocysts," W. S. Hwang *et al.*, 17 June 2005, p. 1777) highlights the hopes people place in this emerging area of science to meet therapeutic needs and the high standards the scientific community must bring to the field.

Accusations made in the press about the validity of the experiments published in South Korea are, in our opinion, best resolved within the scientific community. In 1998, following the publication of success in producing a cloned mammal using somatic cell nuclear transfer (1), there were accusations that it was a scientific fraud. In response to these charges, Sir Alec Jeffreys of the University of Leicester offered to independently verify that the animal was indeed a clone by directly obtaining source tissue from the Hannah Research Institute and blood from Dolly. Sir Alec's laboratory then performed DNA fingerprinting and microsatellite analysis confirming that Dolly's DNA, that of the cells banked at the Institute, and the original adult tissue were one and the same.

It may not come as a surprise that, in a similar vein, charges of fraud would be levied against Hwang's laboratory. We welcome the facts that Hwang has called for an assessment of the work in his laboratory and that the National University has started to make the arrangements. As we (I.W and K.C.) confirmed the validity of our work by cooperating with an independent study, we encourage Hwang's laboratory to cooperate with us to perform an independent test of his cell

lines to determine their nuclear and mitochondrial genotype in comparison with the donors of the original cells.

Many patients and family members of patients with degenerative diseases place great hopes in regenerative medicine. This trust and the monies that many public agencies are investing in the science underscore the sobriety the scientific community should bring to the publications of scientific results. In addition to a willingness to facilitate the independent verification of published results, it may be helpful to institute an internet database to publish the DNA fingerprinting and microsatellite data on new lines to ensure against the cross-contamination of cell cultures or scientific misconduct.

### References

1. I. Wilmut *et al.*, *Nature* **385**, 810 (1997).

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**Correction, 14 December 2005**

An incorrect version of this letter was inadvertently posted at initial publication on 13 December 2005. The version should have included the sentence beginning "We welcome the facts" that appears in the third paragraph of the current version.

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