

**Recommendations of the Academy of Sciences and of the National Academy of Medicine  
regarding the use of human embryonic stem cells**

The laws relating to bioethics (94/653/654) came into effect on 29 July 1994.

Their revision, which was due to take place after five years, is now under way. A preliminary version was approved in a first reading in the French National Assembly on 22 January 2002.

Among the many aspects of this bill, that of the use of human embryonic cell lines, intended for applications in so-called regenerative medicine, in particular, captured the attention of the Academy of Sciences and of the National Academy of Medicine.

Working groups have pondered over these questions within the two institutions and an especially broad colloquium, organized jointly with the Academy of Medical Sciences of Great Britain, was held at the Institute of France and at the National Academy of Medicine from 25 to 27 March 2002.

Following that colloquium, the Academy of Sciences and the Academy of Medicine found it timely to report upon the convergence of their opinions on the medical use of these cell lines now that their effectiveness and tolerance have been duly demonstrated in animals.

They therefore decided to publish jointly the following two communiqués, whose objectives are complementary and which have been approved by their respective assemblies.

**Recommendations regarding experimentation based upon human embryonic stem cells**

Following consultation and closer debate within the *Science and Society Group*, in accordance with the missions entrusted to it, the Academy of Sciences :

1. shares the interest aroused in the scientific community by the use of human stem cells, with a view both to the understanding of the fundamental mechanisms of cell differentiation and to its potential applications ;
2. is concerned about the freezing of research in this field in France and supports the text of the bill approved in a first reading by the French National Assembly on 22 January 2002 :  
*Article of Law 2151-3 - Research carried out on the human embryo and embryonic cells which is in line with a medical purpose is authorised [...]*
3. underlines the importance of new research into intraocyte nuclear somatic transfer and, while continuing to lend an attentive ear to the various opinions voiced in this country on that subject (and in particular those of an ethical nature), deems it necessary that this research should be able to develop in

France, while respecting the legal provisions regarding donations of cells, tissues and organs ;

4. considers that it is imperative to compare the different types of stem cells (of embryonic origin, coming from adult organisms, or obtained by nuclear transfer) by experimental studies and to appreciate their respective possibilities as far as therapeutic applications are concerned (capability for proliferation and differentiation, life expectancy and risks of malignant transformation) ;
5. insists, taking into account the complexity of what is at stake in this research, notably in the ethical, legal, scientific and industrial regards, that the latter be performed subject to rigidly restricted conditions, under the control of the public powers ;
6. recalls, lastly, its formal opposition to any reproductive cloning of human beings, and to any reimplantation, even temporary, of blastocytes obtained following nuclear transfer.

The Academy of Sciences adopted the text of this communiqué at its meeting of 10 June 2002 (84% of votes in favour).