

## **FASEB Statement on Human Cloning and Human Cloning Legislation**

As a community of scientists, we strongly oppose reproductive human cloning and view this as an irresponsible and misguided act. In animal species where cloning has been attempted, most clones do not survive to term or die at birth, and many that survive have abnormalities. For these reasons, and for the many ethical and moral issues surrounding cloning human beings, FASEB adopted a five-year voluntary moratorium on reproductive human cloning in September 1997. In this statement, we define “cloning human beings” as “the duplication of an existing or previously existing human being by transferring the nucleus of a differentiated, somatic cell into an enucleated human oocyte, and implanting the resulting product for intrauterine gestation and subsequent birth.”

It is critical to distinguish clearly between reproductive human cloning, which we denounce, and other uses of cloning technology that have enormous potential to treat human diseases and repair damaged tissues or organs. The technique of somatic cell nuclear transfer – where the nucleus of one cell is removed and replaced with the nucleus of a specialized cell – has the potential to produce large numbers of cells which can then differentiate into many different cell types, such as neurons, pancreatic islet cells, or cardiomyocytes. These techniques may also make it possible to reprogram an individual’s mature cells into specific cell types needed to repair the individual’s own damaged tissue. Thus, these cloning techniques would offer therapeutic benefits without the risk of immune rejection. The potential for treating human disease in this exciting area of regenerative medicine is enormous.

We believe that there should be severe penalties for anyone who attempts reproductive human cloning. However, we fear that broadly crafted legislation that attempts to ban human cloning will also prevent the use of cloning techniques. This will block important research and hinder the progress toward uses of this technology in the treatment of disease. We would support legislation that bans reproductive human cloning, specifically the implantation of cloned cells into a human uterus. However, we believe that such legislation must allow the use of human somatic cell nuclear transfer technology to produce molecules, cells, and tissues for research and therapeutic use. Research into the uses of these techniques must continue, both as a means to understand the complex biology of cellular cloning, and as a way to further therapeutic medicine. Thus, legislation should be carefully crafted to prevent the use of these techniques only for the purpose of creating a human embryo destined for implantation, gestation and subsequent birth.