

PublisherInfo		
PublisherName	:	BioMed Central
PublisherLocation	:	London
PublisherImprintName	:	BioMed Central

Cloned stem cells

ArticleInfo		
ArticleID	:	4071
ArticleDOI	:	10.1186/gb-spotlight-20010501-02
ArticleCitationID	:	spotlight-20010501-02
ArticleSequenceNumber	:	142
ArticleCategory	:	Research news
ArticleFirstPage	:	1
ArticleLastPage	:	2
ArticleHistory	:	RegistrationDate : 2001-05-01 OnlineDate : 2001-05-01
ArticleCopyright	:	BioMed Central Ltd2001
ArticleGrants	:	
ArticleContext	:	130592211

Jonathan B Weitzman

Email: jonathanweitzman@hotmail.com

Pluripotent stem cells hold promise for [transplantation therapy](#) to treat degenerative diseases, but isolating a patient's stem cells may pose a technical limitation. In the April 27 [Science](#), Wakayama *et al.* describe the application of [cloning](#) to generate embryonic stem (ES) cells (*Science* 2001, **292**:740-743). The authors used nuclei from adult-derived somatic donor cells of five different strains of mice to produce cloned blastocysts. These were then used to derive 35 different nuclear transfer ES (ntES) cell lines. The pluripotency of the ntES cells was assessed by *in vitro* [differentiation](#). The ntES lines could be differentiated into dopaminergic and serotonergic neurons. Blastocyst injection of ntES demonstrated that the ntES cells contribute extensively to many tissues *in vivo*, including male and female germ cells. The efficient pluripotency of such cloned ntES cells offers promise for future [therapeutic cloning](#) applications.

References

1. Stem cells--hype and hope.
2. *Science*, [<http://www.sciencemag.org>]
3. Full-term development of mice from enucleated oocytes injected with cumulus cell nuclei.
4. Efficient generation of midbrain and hindbrain neurons from mouse embryonic stem cells.
5. The future of cloning.