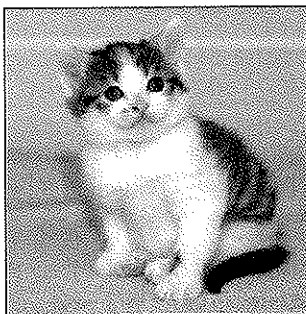


# Scientists Successfully Clone Cat

David Braun, February 14, 2002

Scientists in Texas have successfully cloned a cat, opening the way to replicating pets and other valued animals once the technique is perfected. The work was funded in part by a company that hopes to use the technology to provide commercial cloning of companion animals for pet owners.



Cloned kitty, "CC"

The kitten, called CC (the old typist's abbreviation for carbon copy) and now almost two months old, appears healthy and energetic, although she is completely unlike her tabby surrogate mother, Mark Westhusin and colleagues at Texas A&M University, College Station, announced in the February 21 issue of *Nature*.

The cat was cloned by transplanting DNA from Rainbow, a female three-colored (tortoiseshell or calico) cat, into an egg cell whose nucleus had been removed, and then implanting this embryo into Allie, the surrogate mother.

"CC's coat color suggests that she is a clone, and a genetic match between CC and the donor mother confirms this," the researchers say.

She is not, however, identical to her DNA donor. The reason for this is that the pattern on cats' coats is only partly genetically determined—it also depends on other factors during development.

Out of 87 implanted cloned embryos, CC is the only one to survive—comparable to the success rate in sheep, mice, cows, goats, and pigs, the scientists say. "If these odds can be improved and CC remains in good health, pet cloning may one day be feasible," the scientists reported.

## How They Did It

In their first attempt, researchers obtained the cells used to make the clone from the skin cells of a "donor" cat. But it didn't work. "We did

188 nuclear-transfer procedures, which resulted in 82 cloned embryos that were transferred into seven recipient females," the scientists said. Only one cat became pregnant, with a single embryo. But this pregnancy miscarried.

In the next attempt, the scientists used cells from ovarian tissue to receive the DNA from the cat to be cloned. Five cloned

embryos made in this way were implanted into a single surrogate mother. Pregnancy was confirmed by ultrasound after 22 days and a kitten was delivered by C-section on December 22, 2001, 66 days after the embryo was transferred.

## Endangered Species Could Benefit

The Audubon Nature Institute welcomed the research. "Now we can take this technology and apply it for the preservation of endangered species," said their spokesman. "It proves that cloning can be applied not only to livestock but also to companion animals. Ultimately it will also be used for endangered species."

## Humane Society Opposes Cloning

The Humane Society of the United States is opposed to the concept of cloning pets. "In the first place it is dangerous for the animals involved," said Brian Sodergren, who monitors the exploitation and abuse of companion animals for the society. "Take the cat that was cloned: The sheer amount of embryos it took is quite mind boggling."

"Secondly, cloning adds needlessly to the overpopulation of pets in the United States. There are millions of dogs and cats in shelters waiting to be adopted, looking for responsible owners and loving homes. About half of them will be euthanized because there are not enough homes for them."