

## The truth about cloning

By Anuj Trehan  
THE BATTALION

On Saturday, Dec. 22, 2001, Carbon copy (cc) was born. Not only does this add to a growing list of cloned animals but recognizes Texas A&M as the first to clone a companion animal. These developments are becoming hot topics in science, politics and the media, leaving many wondering what cloning really is.

Cloning is a procedure used to create a new organism whose genetic constitution is nearly the replica of another existing individual. The organisms involved have similar DNA but not necessarily similar expressions of that DNA, which means the clone may not look exactly like its donor.

The principle of cloning for all organisms is the same no matter how big or small the organism may be. Each organism develops from a single cell that divides to form different types of cells, which eventually form different parts of an organism.

Animal cloning is done by substituting the nucleus, which contains the DNA from a cell in an individual's body, as the nucleus of a fertilized egg. Thus, the nucleus of the egg will

contain the same genetic material as the donor. The egg/cell "couplet" fuses and begins to divide like an embryo.

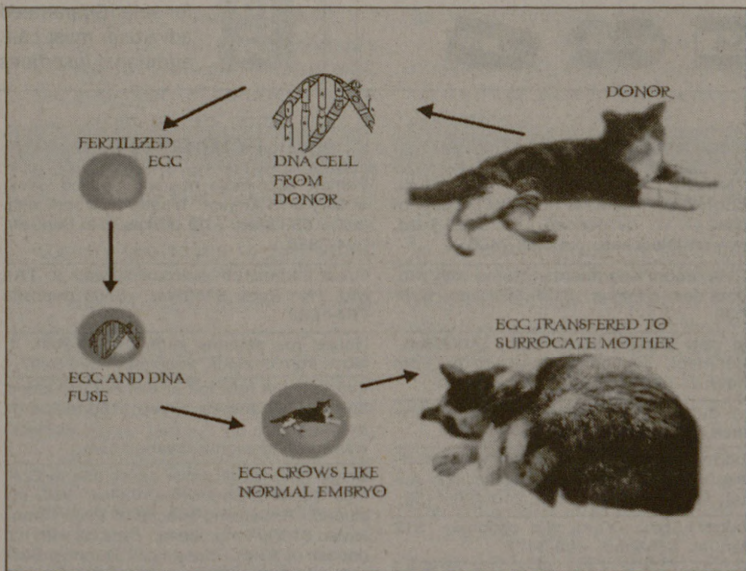
But the clone and the organism from which it was cloned are not identical. The nuclei will contain the same DNA, but the mitochondria within the cells also contain genetic material, which is still distinct to each organism.

The egg starts to develop in a controlled lab setting until it is developing normally. It is then transferred into the womb of a surrogate mother who carries it to term.

The success rate for the proper development of the egg is very small, usually no more than 1 percent. Scientists do not know why the success rate is so small.

Dr. Mark Westhusin has been working to clone dogs, cats and horses with the Missyplicity Project, an effort that began in 1999.

"We do not know why only one of the embryos that were transferred survived," Westhusin said. "This is common for all species that have been cloned to date. We know the process of cloning animals is inefficient but do not know why so many embryos fail to develop. This will require much more research



FRANK CHANCE • THE BATTALION  
The cloning process uses the DNA from the cell nucleus of the organism to be cloned and an enucleated fertilized egg.

to try and figure this out."

The newest A&M clone, cc, is a tiger-tabby domestic short-hair cat. Rainbow, her genetic donor, is a calico domestic shorthair. A detailed genetic analysis showed that DNA from the clone, the genetic donor and the surrogate mother was found to be the same, confirming cc as a clone.

"It has taken the researchers at Texas A&M over two years to successfully reproduce the copycat," Westhusin said.

Cloning research is new and scientists are hopeful of what developments may arise.

"One of the main interests is to produce transgenic animals that have agriculturally or medically beneficial traits," said Dr. Marian Beremand, Texas A&M genetics professor.

Some examples of these potential benefits include the development of disease resistant animals or an animal that produces compounds needed in medicine such as insulin.

## New AIDS vaccine

SEATTLE (AP) — A new vaccine that is perhaps the most closely watched experiment in all of AIDS research is showing promise in early human testing, but researchers caution they are still years away from proving it works.

The approach, called prime-boost, is highly effective in monkeys. Until now, scientists were unsure whether the same would be true in people.

Results released Tuesday at the 9th Annual Retrovirus Conference in Seattle suggest the immune system response in people is identical to that in newly vaccinated monkeys, which are able to withstand exposure to the virus.

Experts believe a vaccine is the only way to stop the worldwide AIDS epidemic, which has already killed 20 million people and infected 40 million more. But the search has been frustrating, because the virus has evolved elaborate and

effective strategies to elude the body's usual defenses against microbes.

Volunteers in the early-stage testing of Merck & Co's experimental vaccine have not been put to the crucial challenge of exposure to HIV, and proving the vaccine does its job will require testing on large numbers of people who are at risk of catching it through sex or drug abuse.

Nevertheless, researchers said the new results are promising, because they raise the possibility that a vaccine can arm the body's immune defenses to fight off HIV and prevent AIDS.

"We are encouraged," said Emini, head of Merck's AIDS vaccine program. "Obviously, the big question is how effective this will be in preventing or mitigating infection. That will have to wait until we get into long-term studies."

## Yearly treatment to deter osteoporosis

AP — A single intravenous dose of medicine a year rather than a pill a day may be enough to prevent osteoporosis, the bone-thinning condition that leads to fractures and hunched backs, especially in women past menopause.

The startling finding came out of a study of a drug called zoledronic acid, which is approved for use in cancer patients to stop calcium from leaching from the bones.

It will be about five years before doctors know whether the drug really does prevent fractures, because the study in Thursday's New England Journal of Medicine was only a one-year look at the medicine's effect on bone itself. The manufacturer, which paid for the research, has already begun the much larger and longer studies.

But doctors who treat osteoporosis — a disease that weakens the bones of more than 10 million Americans and threatens millions more — are excited by the preliminary results.

Dr. Felicia Cosman, clinical director of the National Osteoporosis Foundation, said the thought of a once-a-year treatment is mind-boggling.

### MEET ME AT SATCHELS

\$1<sup>30</sup> Longnecks  
All Day / Everyday

Across the street from Traditions Dorm  
260-8850

FREE PARKING BEHIND SHADOW CANYON

### The Guitar Store

- Over 100 Guitars in stock
  - New Guitars from \$99.99
  - Used Amps, Guitars, & Bass's
  - Buy, Sell, Trade, & Consignment's
- SEAGULL • GODIN • WASHBURN • SAMICK  
Located on University behind the Golden Coral  
260-7262

### PRINCE EYE CARE

R. Michael Prince, O.D.

TAMU Class of '94

- Eye Exams • Consultations
- Glasses • Contact Lenses

Now accepting TAMU Cigna Vision Plans  
Walk-ins welcome or call for an appointment

201 N. Main  
Bryan



822-2020  
fax: 822-2021

### ATTENTION

All On-Campus Residents

ALL current on-campus residents are required to complete the Housing Decision 2002 process to renew or cancel their housing for the fall 2002 - spring 2003 academic year.

WHEN: March 4 (8 a.m.) - March 8 (5 p.m.)

WHERE: On the Residence Life Homepage  
(www.reslife.tamu.edu)

## SPRING BREAK SKI TAOS!

Great snow, après ski parties,  
live music & dancing, and

outdoor fun in the sun with all your friends.

\*Bring this ad during the month of March and get \$10 off the purchase of one adult full-day lift ticket.  
Not valid March 12-14, 2001.



Reservations: 800-776-1111 www.skitaos.org

\*Not valid with other discounts or offers. No photocopies accepted.  
Expires 3/25/01. One coupon per customer. Texas A&M Battalion

### >ever do it with a group?



>tour the world, save big bucks

and get friendly with people your own age. contiki has 100 worldwide trips to choose from. australia from \$55 a day! what on earth are you waiting for!?!?!?

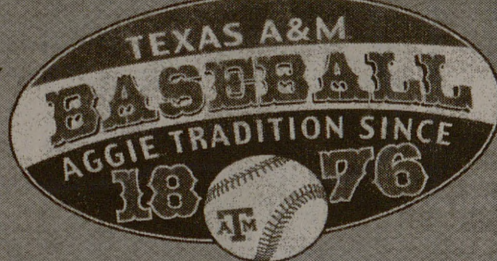
>where to go: >territory & outback 12 days from \$715 >beaches & reefs 14 days from \$770 >reefs & rainforest 17 days from \$985 >fiji sailing adventure 5 days from \$429

contiki

see your campus travel agency  
visit www.contiki.com

europa australia new zealand america canada

all NEW!



# BEAT THE HELL OUTTA TEXAS TECH

inspirations

POST OAK MALL 979-764-4444