

Cloning Fast Facts

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Byline: CNN Library

(CNN) -- Here's some background information about cloning, a process of creating an identical copy of an original.

Facts: Reproductive Cloning is the process of making a full living copy of an organism. Reproductive cloning of animals transplants nuclei from body cells into eggs that have had their nucleus removed. That egg is then stimulated to divide using an electrical charge and is implanted into the uterus of a female.

Therapeutic Cloning is the process where nuclear transplantation of a patient's own cells makes an oocyte from which immune-compatible cells (especially stem cells) can be derived for transplant. These cells are stimulated to divide and are grown in a Petri dish rather than in the uterus.

Timeline: 1952 - Scientists demonstrate they can remove the nucleus from a frog's egg, replace it with the nucleus of an embryonic frog cell, and get the egg to develop into a tadpole.

1975 - Scientists get tadpoles after transferring cell nuclei from adult frogs.

1986 - Sheep cloned by nuclear transfer from embryonic cells.

February 22, 1997 - Scientists reveal Dolly the sheep, the first mammal to be cloned from cells of an adult animal. She was actually born on July 5, 1996.

1998 - More than 50 mice are reported cloned from a single mouse over several generations. Eight calves are cloned from a cow.

2000 - Pigs and goats are reported cloned from adult cells.

2001 - Advanced Cell Technology of Worcester, Massachusetts, says it produced a six-cell cloned human embryo, in research aimed at harvesting stem cells.

2001 - Five bulls are cloned from a champion bull, Full Flush.

2002 - Rabbits and a kitten are reported cloned from adult cells.

December 27, 2002 - Clonaid claims to produce first human clone, a baby girl, Eve.

January 23, 2003 - Clonaid claims to have cloned the first baby boy. The baby was allegedly cloned from tissue taken from the Japanese couple's comatose 2-year-old boy, who was killed in an accident in 2001. Clonaid has never provided physical evidence of the cloning.

February 14, 2003 - The Roslin Institute confirms that Dolly, the world's first cloned mammal, was euthanized after being diagnosed with progressive lung disease. She was 6 years old.

May 4, 2003 - The first mule is cloned at the University of Idaho, named Idaho Gem.

June 9, 2003 - Researchers Gordon Woods and Dirk Vanderwall from the University of Idaho and Ken White from Utah State University claim to have cloned a second mule.

August 6, 2003 - Italian scientists at the Laboratory of Reproductive Technology in Cremona, Italy, say they have created the world's first cloned horse, Prometea, from an adult cell taken from the horse who gave birth to her.

September 25, 2003 - French scientists at the National Institute of Agricultural Research at Jouy en Josas, France, become the first to clone rats.

February 12, 2004 - South Korean researchers report they have created human embryos through cloning and extracted embryonic stem cells. Findings by a team of researchers were presented to South Korean scientists and describe in detail the process of how to create human embryos by cloning. The report says the scientists used eggs donated by Korean women. An investigative panel concludes in 2006 that South Korean scientist Woo Suk Hwang's human stem cell cloning research was faked.

August 3, 2005 - South Korean researchers announce they have successfully cloned a dog, an Afghan hound named Snuppy.

December 8, 2008-April 4, 2009 - Five cloned puppies from Trakr, a German Shepherd Sept.11 Ground Zero rescue dog, are born.

May 2009 - Clone of Tailor Fit, a two-time quarter horse world champion, is born, one of several cloned horses born that year.

September 29, 2011 - At South Korea's Incheon Airport, seven "super clone" sniffer-dogs are dispatched to detect contraband luggage. They are all golden Labrador Retrievers that are genetically identical to "Chase", who was the top drug detention canine until he retired in 2007.

May 15, 2013 - Oregon Health & Science University researchers report in the journal Cell that they have created embryonic stem cells through cloning. Shoukhrat Mitalipov and the biologists produced human embryos using skin cells, and then used the embryos to produce stem cell lines.

April 2014 - For the first time, cloning technologies have been used to generate stem cells that are

genetically matched to adult patients. Researchers put the nucleus of an adult skin cell inside an egg, and that reconstructed egg went through the initial stages of embryonic development, according to research published this month.

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