

## HOUSE BILL No. 2098

By Committee on Health and Human Services

1-18

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9 AN ACT providing for the defining of certain terms relating to human  
10 cloning.

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12 *Be it enacted by the Legislature of the State of Kansas:*

13 Section 1. In the construction of the statutes of this state and for  
14 purpose of legislative committee studies and inquiries, the following  
15 terms relating to human cloning shall have the meaning as specified in  
16 this section:

17 (a) "Asexual reproduction" means reproduction not initiated by the  
18 union of oocyte and sperm. Reproduction in which all (or virtually all)  
19 the genetic material of an offspring comes from a single progenitor.

20 (b) "Blastocyst" means the name used for an organism at the blas-  
21 tocyst stage of development.

22 (c) "Blastocyst stage" means an early stage in the development of  
23 embryos, when (in mammals) the embryo is a spherical body comprising  
24 an inner cell mass that will become the fetus surrounded by an outer ring  
25 of cells that will become part of the placenta.

26 (d) "Cloned embryo" means an embryo arising from the somatic cell  
27 nuclear transfer process as contrasted with an embryo arising from the  
28 union of an egg and sperm.

29 (e) "Cloning" means in the following contexts:

30 (1) "Cloning-to-produce-children" means the production of a cloned  
31 human embryo, formed for the (proximate) purpose of initiating a preg-  
32 nancy, with the (ultimate) goal of producing a child who will be genetically  
33 virtually identical to a currently existing or previously existing individual.

34 (2) "Cloning-for-biomedical-research" means the production of a  
35 cloned human embryo, formed for the (proximate) purpose of using it in  
36 research or for extracting its stem cells, with the (ultimate) goals of gaining  
37 scientific knowledge of normal and abnormal development and of devel-  
38 oping cures for human diseases.

39 (3) "Gene (molecular) cloning" means the isolation and characteri-  
40 zation of DNA segments coding for proteins (genes) using carrier pieces  
41 of DNA called vectors.

42 (4) "Human cloning" means the asexual reproduction of a new hu-  
43 man organism that is, at all stages of development, genetically virtually

- 1 identical to a currently existing, or previously existing, human being.
- 2 (f) “Chromosomes” means structures inside the nucleus of a cell,  
3 made up of long pieces of DNA coated with specialized cell proteins, that  
4 are duplicated at each cell division. Chromosomes thus transmit the genes  
5 of the organism from one generation to the next.
- 6 (g) “Cytoplasmic” means located inside the cell but not in the  
7 nucleus.
- 8 (h) “Diploid” means the chromosome number in a cell, distinct for  
9 each species (46 in human beings).
- 10 (i) “Diploid human cell” means a cell having 46 chromosomes.
- 11 (j) “Embryo” means (1) The developing organism from the time of  
12 fertilization until significant differentiation has occurred, when the or-  
13 ganism becomes known as a fetus; or (2) an organism in the early stages  
14 of development.
- 15 (k) “Enucleated egg” means an egg cell whose nucleus has been re-  
16 moved or destroyed.
- 17 (l) “Epigenetic modification” means the process of turning genes on  
18 and off during cell differentiation. It may be accomplished by changes in  
19 (1) DNA methylation, (2) the assembly of histone proteins into nucleo-  
20 somes and (3) remodeling of chromosome-associated proteins such as  
21 linker histones.
- 22 (m) “Epigenetic reprogramming” means the process of removing ep-  
23 igenetic modifications of chromosomal DNA, so that genes whose ex-  
24 pression was turned off during embryonic development and cell differ-  
25 entiation become active again. In cloning, epigenetic reprogramming of  
26 the donor cell chromosomal DNA is used to reactivate the complex pro-  
27 gram of gene expression and repression required for embryonic  
28 development.
- 29 (n) “Eugenics” means an attempt to alter (with the aim of improving)  
30 the genetic constitution of future generations.
- 31 (o) “Gamete” means a reproductive cell (egg or sperm).
- 32 (p) “Haploid human cell” means a cell such as an egg or sperm that  
33 contains only 23 chromosomes.
- 34 (q) “Infertility” means the inability to conceive a child through sexual  
35 intercourse.
- 36 (r) “In vitro fertilization (IVF)” means the union of an egg and sperm,  
37 where the event takes place outside the body and in an artificial  
38 environment.
- 39 (s) “Mitochondria” means small energy-producing organelles inside  
40 of cells. Mitochondria give rise to other mitochondria by copying their  
41 small piece of mitochondrial DNA and passing one copy of the DNA  
42 along to each of the two resulting mitochondria.
- 43 (t) “Multipotent cell” means a cell that can produce several different

- 1 types of differentiated cells.
- 2 (u) "Nucleus" means an organelle, present in almost all types of cells,  
3 which contains the chromosomes.
- 4 (v) "Nuclear transfer" means transferring the nucleus with its chro-  
5 mosomal DNA from one (donor) cell to another (recipient) cell. In clon-  
6 ing, the recipient is a human egg cell and the donor cell can be any one  
7 of a number of different adult tissue cells.
- 8 (w) "Oocyte" means egg.
- 9 (x) "Organism" means any living individual animal considered as a  
10 whole.
- 11 (y) "Parthenogenesis" means a form of nonsexual reproduction in  
12 which eggs are subjected to electrical shock or chemical treatment in  
13 order to initiate cell division and embryonic development.
- 14 (z) "Pluripotent" means a cell that can give rise to many different  
15 types of differentiated cells.
- 16 (aa) "Somatic cell (human)" means a diploid cell containing 46 chro-  
17 mosomes obtained or derived from a living or deceased human body at  
18 any stage of development.
- 19 (bb) "Somatic cell nuclear transfer (SCNT)" means transfer of the  
20 nucleus from a donor somatic cell into an enucleated egg to produce a  
21 cloned embryo.
- 22 (cc) "Stem cells" means stem cells are undifferentiated multipotent  
23 precursor cells that are capable both of perpetuating themselves as stem  
24 cells and of undergoing differentiation into one or more specialized types  
25 of cells.
- 26 (dd) "Totipotent" means a cell with an unlimited developmental po-  
27 tential, such as the zygote and the cells of the very early embryo, each of  
28 which is capable of giving rise to (1) a complete adult organism and all  
29 of its tissues and organs, as well as (2) the fetal portion of the placenta.
- 30 (ee) "Zygote" means the diploid cell that results from the fertilization  
31 of an egg cell by a sperm cell.
- 32 Sec. 2. This act shall take effect and be in force from and after its  
33 publication in the statute book.