

Scientists create human-monkey chimera

20th April, 2021



In this rapidly changing world, we are seeing more examples of science fiction becoming science fact. A team of American and Chinese scientists has created the world's first part-human, part-monkey embryo. This fusion of genetic tissue is called a

chimera. The scientists say it potentially paves the way for lifesaving medical advances. Bio-scientist Henry Greely explained the importance of this scientific breakthrough. He said: "The long-term goal of this research team is to grow human organs in pigs - kidneys, livers, hearts, etc." He added: "They want to do that to make more human organs for transplants. Tens of thousands of people on a transplant list die every year waiting for a transplant."

The groundbreaking research involved injecting 25 human cells into the embryos of long-tailed macaque monkeys. The human cells developed inside 132 of the embryos. The scientists studied the development of the embryos for 19 days. Many people are disturbed by the research and believe it belongs to the realm of horror movies. Professor Greely said he appreciated that there are many ethical concerns around the creation and use of chimera. He said: "Every time a person gets an organ transplant, the result is an intra-species chimera - an organism made up of cells from two members of the same species....When a human gets a pig heart valve, she becomes an inter-species chimera."

Sources: salon.com / webmd.com / yahoo.com

Writing

Scientists should not be mixing the genes of two species to create chimera. Discuss.

Chat

Talk about these words from the article.

rapidly changing world / science fiction / part-human / monkey / chimera / liver / list / groundbreaking / embryo / cells / development / ethical / organ / transplant / species

True / False

- a) The article says science fact is becoming science fiction. T / F
- b) The scientists are from the USA and China. T / F
- c) The goal of the research is to grow human organs in pigs. T / F
- d) The article says millions die while waiting for an organ transplant. T / F
- e) Scientists injected 132 human cells in 25 monkey embryos. T / F
- f) The scientists observed the embryos' development for over 3 weeks. T / F
- g) The article says this story will be made into a horror story. T / F
- h) If a human has a pig heart valve, that human becomes a chimera. T / F

Synonym Match

(The words in **bold** are from the news article.)

- | | |
|--------------------------|-----------------|
| 1. rapidly | a. pass away |
| 2. fusion | b. gets ready |
| 3. pave the way | c. development |
| 4. breakthrough | d. moral |
| 5. die | e. blending |
| 6. groundbreaking | f. progress |
| 7. development | g. acknowledged |
| 8. appreciated | h. quickly |
| 9. ethical | i. life form |
| 10. organism | j. innovative |

Discussion – Student A

- a) What do you think about what you read?
- b) What do you think of scientists modifying embryos?
- c) Do you think this research belongs in the realm of horror movies?
- d) What are the ethical concerns around this research?
- e) What do you think of the risk of creating a new, half-human species?
- f) Would you accept a transplant from an organ grown in a pig?
- g) What three adjectives best describe this story?
- h) What questions would you like to ask the scientists?

Phrase Match

- | | |
|-------------------------------------|------------------------|
| 1. In this rapidly | a. research |
| 2. science fiction becoming science | b. of horror movies |
| 3. This fusion of genetic tissue | c. list |
| 4. lifesaving medical | d. valve |
| 5. people on a transplant | e. is called a chimera |
| 6. groundbreaking | f. changing world |
| 7. people are disturbed | g. concerns |
| 8. it belongs to the realm | h. advances |
| 9. there are many ethical | i. fact |
| 10. a pig heart | j. by the research |

Discussion – Student B

- What do you think of science fiction?
- What is in our world that looks like science fiction?
- What do you think of scientists creating chimeras?
- What examples are there of our world changing rapidly?
- What are the dangers of creating chimeras?
- What are the similarities between a chimera and Frankenstein?
- What do you think of growing human organs in pigs?
- Should there be limits as to what scientists can create?

Spelling

- part-human, part-monkey bmyore
- This fusion of tneqgie tissue
- it atenyloitlp paves the way
- the importance of this scientific htkgbearuroh
- ksnyied, livers, hearts, etc.
- waiting for a spnrrnattal
- raoggd bknrneu research
- people are itedbsudr by the research
- Professor Greely said he tadapcipere that
- there are many htlecai concerns
- two members of the same iecpess
- When a human gets a pig heart velva

Answers – Synonym Match

1. h	2. e	3. b	4. c	5. a
6. j	7. f	8. g	9. d	10. i

Role Play

Role A – Heart

You think a heart transplant is the most beneficial. Tell the others three reasons why. Tell them why their transplants aren't as beneficial. Also, tell the others which is the least beneficial of these (and why): hair transplant, skin transplant or brain transplant.

Role B – Hair

You think hair transplant is the most beneficial. Tell the others three reasons why. Tell them why their transplants aren't as beneficial. Also, tell the others which is the least beneficial of these (and why): heart transplant, skin transplant or brain transplant.

Role C – Skin

You think a skin transplant is the most beneficial. Tell the others three reasons why. Tell them why their transplants aren't as beneficial. Also, tell the others which is the least beneficial of these (and why): hair transplant, heart transplant or brain transplant.

Role D – Brain

You think a brain transplant is the most beneficial. Tell the others three reasons why. Tell them why their transplants aren't as beneficial. Also, tell the others which is the least beneficial of these (and why): hair transplant, skin transplant or heart transplant.

Speaking – Transplants

Rank these with your partner. Put the most beneficial transplants at the top. Change partners often and share your rankings.

- | | |
|----------|---------|
| • Kidney | • Heart |
| • Eye | • Hair |
| • Liver | • Face |
| • Brain | • Skin |

Answers – True False

a	F	b	T	c	T	d	F	e	F	f	F	g	F	h	T
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Answers to Phrase Match and Spelling are in the text.