It Came From The Heart: Don't Try This At Home

In 2000, a group of scientists at the University of California, Berkeley, published a paper in the journal *Nature* that described a new way to create stem cells. This technique, called somatic cell nuclear transfer (SCNT),involves taking the nucleus from a somatic cell (a non-reproductive cell, such as a skin cell) and implanting it into an egg cell that has had its own nucleus removed. The egg cell is then fertilized, and the resulting embryo is allowed to develop into a blastocyst. At this stage, the blastocyst contains a group of stem cells called inner cell mass (ICM). These stem cells can be grown in the laboratory to create a variety of different cell types, including heart cells, nerve cells, and blood cells.

How to Murder Your Husband: It Came From the Heart (Don't try this at home.) by Boo Heisey

4.3 out of 5

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Screen Reader	: Supported
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SCNT is a controversial technique because it involves the creation and destruction of human embryos. However, it has the potential to be a powerful tool for treating a variety of diseases and conditions. For example, SCNT could be used to create patient-specific stem cells that could be used to repair damaged tissues or to grow new organs.

The Experiment

In their *Nature* paper, the Berkeley scientists described how they used SCNT to create stem cells from human skin cells. The scientists first took skin cells from a volunteer and grew them in the laboratory. They then removed the nucleus from an egg cell and implanted the nucleus from a skin cell into the egg cell. The egg cell was then fertilized, and the resulting embryo was allowed to develop into a blastocyst.

The scientists then removed the ICM from the blastocyst and grew it in the laboratory. The ICM cells were able to differentiate into a variety of different cell types, including heart cells, nerve cells, and blood cells.

The Results

The Berkeley scientists' experiment was a success. They were able to create stem cells from human skin cells using SCNT. These stem cells were able to differentiate into a variety of different cell types, including heart cells, nerve cells, and blood cells.

The Berkeley scientists' experiment was a significant breakthrough in the field of stem cell research. It showed that it is possible to create patient-specific stem cells that could be used to repair damaged tissues or to grow new organs.

The Controversy

SCNT is a controversial technique because it involves the creation and destruction of human embryos. Some people believe that it is wrong to create human embryos for research purposes. Others believe that the potential benefits of SCNT outweigh the ethical concerns.

The debate over SCNT is likely to continue for many years to come. However, the Berkeley scientists' experiment is an important step forward in the field of stem cell research. It has shown that it is possible to create patient-specific stem cells that could be used to treat a variety of diseases and conditions.

The Future of SCNT

SCNT has the potential to be a powerful tool for treating a variety of diseases and conditions. However, there are still a number of challenges that need to be overcome before SCNT can be used in clinical applications.

One challenge is that SCNT is a relatively inefficient process. Only a small percentage of the eggs that are fertilized with nuclei from somatic cells actually develop into blastocysts. This inefficiency makes it difficult to produce enough stem cells for clinical use.

Another challenge is that SCNT-derived stem cells can sometimes develop into tumors. This is a serious safety concern that needs to be addressed before SCNT can be used in clinical applications.

Despite these challenges, SCNT is a promising technique with the potential to revolutionize the treatment of a variety of diseases and conditions. Researchers are working to overcome the challenges associated with SCNT, and it is likely that SCNT will eventually be used to treat patients in the clinic.

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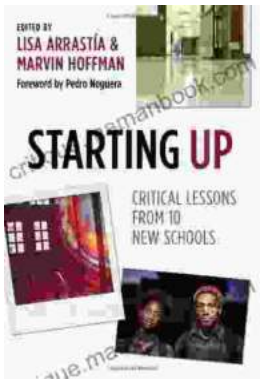

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