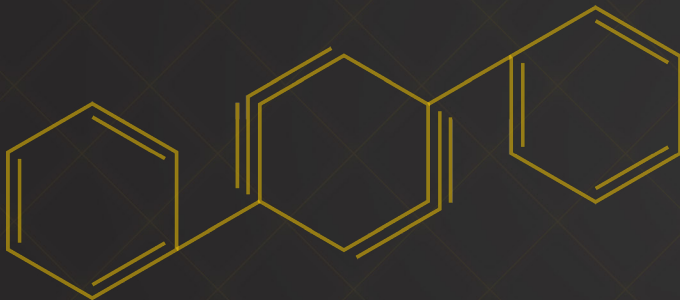


Stem Cell Crowdsourcing



Alson, Autumn, Cassandra, Jocelyn, Phillip, and Tristan

Induced Pluripotent Stem Cells

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Induced Pluripotent Stem Cells

The iPSC, or induced pluripotent stem cell, was first made by Shinya Yamanaka in 2006. An iPSC is a pluripotent stem cell capable of differentiating or turning into any other type of cell and replicating itself that was made from a specialized cell like a skin or muscle cell. iPSCs are made by introducing four transcription factor proteins, Sox2, Oct4, c-Myc, and Klf4, to a specialized cell. These four proteins induce the cell to behave like a pluripotent stem cell. As the cells undergo replication, creating more and more stem cells, the children of the original induced cell become more and more like pluripotent stem cells until they are indistinguishable, becoming induced pluripotent stem cells or iPSCs.

iPSCs are useful in a myriad of applications, and are particularly effective at augmenting or replacing cells. In contrast to normal cell implants, iPSCs can be created using specialized cells from the patient's body. The use of the patient's cells helps prevent tissue rejection usually associated with cell implants because the DNA of the implanted cells matches the DNA of the patient. This negates the necessity of costly and often harmful drugs meant to prevent tissue rejection in implantations, significantly reducing the cost and risks associated with cell implants.

ATTENTION!

Have you or a loved one undergone stem cell surgery and suffered the following side effects?

- Nausea
- Complications from Anesthesia
- Paralysis
- Liver Malfunction
- Immune System Resistance
- Clostridium Difficile Colitis
- Cancer
- Death

You may be entitled to up to **\$10,000** compensation.

Contact our firm at
+1 (800) 555-STEM for a
free legal consultation
today!



Preventing Infection Among Stem Cell Transplant Patients

According to a study from the Abramson Cancer Center at the University of Pennsylvania, it may be possible to prevent a extremely painful infections from occurring in bone marrow and stem cell transplant patients. The infection is called Clostridium difficile or C. diff, it cause extreme bowel problems and treatment can take a long time, one patient pays an average of \$8,911 to \$30,049 for treatment according to the American Journal of Gastroenterology. Out of the 128 participants 73 were given the drug and none of them developed C. diff. While the people who were not given the drug 11 out of 55 got the disease that is 20% and the national average is 20-30 percent. There are roughly 324 million people in the USA using the 20% national average around 64 million people a year could be saved for the physical and monetary pain of this disesse by properly using antibiotics according to this study. This is yet another breakthrough in the wake of stem cell technology that reduces risk for possible patients

The researchers presented their findings at the 58th Annual American Society of Hematology Meeting and Exposition on December 3-6, 2016 San Diego, CA

Word Search

I Y G O L O I B I Z G D F F J
E H C Y G O Q L W R E W R U A
L C D O Z V T J T N I M S J V
E R Z F P Y K I L P R E O C C
C N S C I H T E O I B A Y Y R
X R G R A P E B G Y J C T F O
B F D I L T Q E G R S E I L W
E N R Y N D N O R R X L V N D
Q H U K K E L W I D J L E N S
P E H N T O E R V W G L G S O
D Y R I N K S R K I Z M N Z U
K S C H R W O A I W V E O M R
A S C W J W R Y V N D T L X C
R E M T Q J A F E N G S Z Z E
T E K Q K S S C I E N C E T M

STEM
CELL
GENETICS
TECHNOLOGY
BIOLOGY
CROWDSOURCE
BIOETHICS
ENGINEERING
SCIENCE
LONGEVITY

The Fine Print

Crowdsourcing stem cell technologies are full of opportunity, and in recent years the understanding of stem cells has led to great advancements. But advertisements may mislead the consumer or embellish the truth, and leave out important information regarding restrictions and qualifications, which are shown in the example below.

“Stem cells may be carcinogenic. Stem cell technologies require large donations from friends and family in order to work. Stem cells have not been proven to cure any disease, but they have potential to help cure diseases such as parkinson's, heart disease, and cancer. Stem cell groups would assume no liability for problems that arise throughout funding or application of the process. Stem cell technologies could support cloning, intentional mutation, or illegal use of stem cells, such as athletic advantages within sports. They cannot be used for an athletic advantage. Stem cells may be unsafe with excess use. Stem cells are only obtainable from the person receiving treatment to prevent rejection. Stem cells take time to prepare and therefore are not quickly creatable”

Is Stem Cell Crowdsourcing Ethical?

Let's hear from philosophers:

Immanuel Kant: Crowdsourcing stem cell technology violates the categorical imperative: treating people as an end rather than as means. It benefits people and their desires instead of focusing on the science!

Aristotle: The telos of nature is made to be preserved and not messed with.



What is Crowdsourcing?
What are Stem Cells?



Stem Cells are cells capable of turning into another cell and replicating itself.

Crowdsourcing is a way to get funding from a large or group of people or small amounts from people.

The Underlying Problems in Stem Cells

For better or for worse, modern medicine is used to help prevent disease, and new advancements within the stem cell community will continue to help those with ill-health. But should it be this way? Yes, we should use stem cell technology to help prevent disease as it allows for people to live longer, better lives and increases our scientific knowledge which could be helpful in future treatments. This would mean that we could accomplish more, resulting in more happiness throughout a population of people and help fix other problems within society. However, it would be unethical for certain things to happen, like the mutation of people or things using stem cells whatsoever. Stem cells would also only be aimed at the elite because they are the only people who can afford it. If athletes were able to use stem cells to gain an advantage, then unless regulations were in place they most likely would. You cannot let people control or modify others, because people should be allowed to retain their autonomy.

City of Misery

If you looked down upon the city of Omelas, you would see cars puttering perfectly down perfectly organized roads, carrying their perfectly happy passengers to their perfect productive jobs. Look closer and you would see joyful children leading their perfect lives, coming home to their perfect families. In fact, everything was perfect in the city of Omelas. Everything save for one small detail. Locked away, deep in the cellar of one of the perfect colorful houses, lays a child. A child whose days have been lived out in complete misery. Everyone knows this, and they all know that the instant that the child's suffering is over, nothing will be perfect anymore.

Halfway across the city, two houses down from the bus stop with the orange light, Emma yawned nonchalantly and rolled out of bed. She had woken up an hour before the bus would arrive at her stop, just the right amount of time for a leisurely morning. However, today was no ordinary day in paradise, for she was to see the source of the city's happiness for the first time. After a long relaxed shower and a quick breakfast at the nearby cafe, Emma zipped down to the bus stop, pivoted around the orange lamppost, and hopped onto her bus. Perfectly on time.

Emma sat dejectedly on her bus seat, gloomily watching the perfect houses go by in their perfect rows. She had had no inkling that such an appalling method was the source of her joy, or even the city's prosperity. Dark clouds surrounded the thoughts in her mind as the concept of an entire city treating such a system as even barely permissible sank in. The bus had dropped her off at a normal house, nothing special, but perfect nonetheless. From there she had been lead to the basement. Emma shuddered as she recalled the image of the starving child on the floor, the doubt that this child could possibly be the source of happiness for the entire city, the repulsion that soon replaced the doubt.

The bus soon reached her stop and Emma stepped out to sit on a bench, lamenting what had been done. Nearly half an hour later, Emma stood up suddenly. She walked forward slowly, taking each step deliberately. Walking slowly at first, past the orange lamp post, through the perfect rows of perfect houses, by the house of the miserable child. Emma kept going, running by rows of cars returning from work, ignoring the loss of houses, then sidewalk. No matter what, Emma kept going, escaping the system that she had, for so long, believed was good and honest. Escaping from this City of Misery.

The Debate

“Up next, leading scientist Shinya Yamanaka is here to talk to the top donator for science Vincent Monro. They will be discussing a crucial point in scientist's careers.” The Channel 5 news reporter announced.

“Woah, this sounds interesting.” I said aloud. The thought of a cure for anything seemed almost too good to be true. With the history of my family having small rare diseases, and scientists treating those rare diseases meant a lot to me. I quietly listened to the news program, slouching even more on the couch.

“Scientists have been working on a revolutionary piece of medicine called stem cells. Stem cells are cells that are capable of turning into another cell and replicating themselves. Leading scientist and director for IPS Cell Research Shinya Yamanaka is here to say a word.”

“With stem cells, we have figured out how to cure many diseases, such as Alzheimer’s disease, Parkinson’s disease or other neurological problems. Stem cells are also used to produce insulin that could treat people with diabetes and heart muscle cells that could repair damage after a heart attack.” Yamanaka claimed.

“Wow! That’s fascinating! And how is the research for stem cells progressing? Is it easy to get the funds for such a life saving science?” The reporter asked.

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“Wow! That’s fascinating! And how is the research for stem cells progressing? Is it easy to get the funds for such a life saving science?” The reporter asked.

“No. As a matter of fact, it’s our most difficult thing to do. We are receiving money through PleaseFundMe.org, which allows anyone to donate for us. You can find our cause on there by using the key word ‘stem cells’. Currently, we are having big owners of companies tell us what to do, and donating money for other diseases and causes, and due the large sum of money that is being donated, we are forced to work on what they chose for us.”

“Oh, that seems terrible. Well, we do have a person from a big company to maybe shine a light on his perspective as to why he might be doing such a thing, and on his opinions on crowdfunding.” The newscaster explained. She looked offscreen and said, “Oh, here he is now!”

A large colored man came into view. He took a seat next to Yamanaka, across from the newscaster. “Hello! It’s good to be here.” He said. His voice was gravely, as if he had a sore throat.

“It’s good to have you here! Thank you for coming.” The three shook hands with each other. “Now, Vincent, there is no doubt that you are the top donator for most things related to science. You gave a large amount to the research of HIV protection, as well as AIDS, lung cancer, breast cancer, heart transplants, and more.”

“Well, I don’t mean to brag, but when you have a lot of money and you have the need to help people, you have got to do what you have got to do.” The newscaster gave a chuckle at this. “Anyways, Shinya, I believe that I was brought here to give my opinion on this. I feel that when I donate, I want the cause to be fixed. The problem is, science doesn’t work that way. It takes time and effort of leading scientists like yourself to get it done, and if the scientists do not want to do it, I feels like a waste of time to me.”

Shinya waited patiently. He thought for a couple seconds before speaking. “I understand how you feel Vincent. Speaking for scientists around the world that you donate to, we are grateful, don’t get us wrong. The problem here is that we are still human beings, and not machines. We also have feelings on what we want to work on, and what interests us the most. This does not mean that we will not work on your choice of science that you donated for, but it means that when we do it, we might not be happy and not perform at our best.”

“But I am giving you a large amount of money. Are you saying that when you get the money you are still not happy?” Vincent quickly replied.

“No, we are happy that we got the money, but some topics interest us more than others. I am simply going to say that we want to be able to chose what we work on, while still getting to yours, but maybe not as our first priority.” Shinya reasoned.

“Wouldn’t you think that after people, like myself, pay for something, and it has the most money in it, that it would be the top priority?” Vincent argued back.

“Well now boys! That’s all the time we have for today. Both of you are posing strong arguments, and I think it’s up to the viewers watching at home to decide on which is better. Should the top donated choice be prioritized? Should it be up to the scientists to chose? Is it right for a singular person to dictate the course of science?” She pointed at the camera, “You decide! Make sure you call in after the show.”

Is this wrong?
I'm not sure if this seems right
Someone make me feel strong
My bones ache all day and night
I am weak to my knees and cannot speak
This is what happens when you are hit with a disease
They are destroying my nature if I allow this to fix me
Who can be sure if this is a possible cure?
Who knows if I will soon be deceased?
Do I allow stem cells to mess with my nature and heal me?

