

How to isolate amniotic stem cells from the placenta, at home!

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Dear Sci.Med Group,

I am Attila Csordás, a trained molecular biologist and biotechnologist, and my research topic is mitochondrial and stem cell biology, tissue engineering, regenerative medicine.

Here is a stem cell isolation protocol for everybody, you might have been interested in:

<http://pimm.wordpress.com/2007/01/23/how-to-isolate-amniotic-stem-cells-from-the-placenta-at-home/>

Intro:

The placenta is a very valuable and scarce human tissue, although the proper recycling of it is not placentophagy, but the isolation of stem cells from its amnion layer, and storing them for later regenerative purposes for the whole family. Human amniotic epithelial cells (HAECs) from the placenta are alternative replacements of human embryonic stem cells, and have the potential to differentiate to all three germ layers in vitro. These cells are very close to those earlier and broadly multipotent amniotic fluid-derived stem cells, which made the big buzz lately on the web, published by De Coppi, Atala et al. in Nature Biotechnology. Here I would like to show, although I do not provide any warranty and can not give any guarantee, that isolating stem cells from the placenta is not more difficult than making a steak, and with proper preparation, investment and timing you can do it even at home or in a rent lab. The process is ethically non-controversial since the placenta is usually discarded after birth. Today, stem cell therapy is just a promising possibility, but in the not so distant future, self-aware citizens may manage their own stem cells, grow them in the garage, and store them in the fridge. If so, it could be a form of autonomous medical self-insurance. We are at the dawn of the bioDIY movement backed by open source science for anybody. I used Make magazine's Backyard Biology issue as a reference, because it invented the basic language of bioDIY or home or garage biotech. Here is the algorithm at the cartoon and below are the detailed, although not self-including textual protocol. More details will come later, if asked.

Cheers, Attila Csordás.

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