

# Literature review on preassigned article on amniotic stem cell



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## ISOLATION OF AMNIOTIC STEM CELL LINES WITH POTENTIAL FOR THERAPY: A LITERARY REVIEW 2007 Isolation of Amniotic Stem Cell Lines With Potential for Therapy: A Literary Review

### INTRODUCTION

The issue of amniotic stem cell science is one of incredible controversy and complexity, and the article Isolation in Amniotic Stem Cell Lines With Potential for Therapy is an article that refers to this subject matter, and it one which is incredibly informative and yet remains understandable at the same time. The general topic of this article is in regards to how stem cells capable of differentiating to multiple lineages may be valuable for therapy, as well as what stem cells and amniotic fluid are and what they are all about, as well as what key and related issues are involved and influential in regards to each. By thoroughly addressing and examining this article, we will not only be able to better understand the purpose of the article and the general point of view of the author, but as well we will gain a more knowledgeable and informed understanding in regards to the issue of amniotic stem cell lines and their purpose in general. The aim of this paper is to show how stem cells are believed to hold greater therapeutic promise for a wide ranger of serious diseases and types of injury, and as well to discuss all of the key and related issues in this regards, particularly in correlation with this article. This is what will be dissertated in the following.

### ISOLATION OF AMNIOTIC STEM CELL LINES WITH POTENTIAL FOR THERAPY

The basic purpose of this article is to basically explain about amniotic fluid and stem cells, and how stem cells are incredibly valuable for research and as well what methods are used in order not only to find proper stem cells, <https://assignbuster.com/literature-review-on-preassigned-article-on-amniotic-stem-cell/>

but as well the methods that are used in order to research and use these stem cells. We can see that the authors were trying to demonstrate methods of how similar human stem cells are to that of mice and rats, for instance, and how this data aids in the stem cell for research process overall. There were several general methods in particular that were used, and for instance, one method that they used involved the isolation of AFS lines, by "immunoselection of cells expressing c-Kit from the amniotic fluid of mice and rats. The rodent AFS cells closely resemble the human AFS cells in their growth properties and capacity for in vitro differentiation". (De Coppi et al, 2007). Examples of the differentiated cells derived from human AFS cells and displaying specialized functions include "neuronal lineage cells secreting the neurotransmitter L-glutamate or expressing G-protein-gated inwardly rectifying potassium channels, hepatic lineage cells producing urea, and osteogenic lineage cells forming tissue-engineered bone". (De Coppi et al, 2007).

There are many different benefits that can be acquired from the results that are presented in this article, and for instance, we have seen that there are ways that healthy and useful amniotic stem cells can be produced, and as well we have learned that the function of differentiated cells originally derived from that of AFS cells; "In addition to showing that induced stem cells express lineage-specific markers, it is important to confirm that they can give rise to cells with sufficient specialized function to have potential therapeutic utility" (De Coppi et al, 2007). There are several different aspects of anatomy and physiology which were being addressed in this article, for example, it was stated that "Examples of differentiated cells derived from human AFS cells and displaying specialized functions include neuronal

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lineage cells secreting the neurotransmitter L-glutamate or expressing G-protein-gated inwardly rectifying potassium channels, hepatic lineage cells producing urea, and osteogenic lineage cells forming tissue-engineered bone" (DeCoppi P et al, 2007).

The content of this article greatly relates to the field of healthcare, as being discussed within it is one of the most controversial and disputed healthcare topics in the world today - the use of amniotic stem cells, and the research that goes into this study of amniotic stem cells and stem cell lines. There are many different benefits which can be derived from this article, as not only does it thoroughly address and examine the general issue of amniotic stem cell research, but as well the results that are presented in this article allow us to see that there is great hope for the studies of the future in this regards, and also that there is much that is positive which is resulting from the research and therapeutic use of amniotic stem cells. In particular, the knowledge that has been gained from this specific article might affect the future of our healthcare system in various ways, namely in regards to how it is going to be able to positively advance our healthcare system, thus allowing us to gain more research and have more promise in this area than ever before.

In my opinion, this article is well written and incredibly significant and influential in many different ways, and as well, it informs us greatly in regards to the issue of amniotic stem cell research, as well as amniotic stem cell future hopes. It absolutely addresses certain issues that we will be discussing in the future, however at the same time it does address

physiology, however, there are some issues that I do not agree with, due to

the problems that exist within these issues. For instance, there is the matter  
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of " While the use of human nerve cells in the mouse brain could be considered ethically problematic, this is a very significant finding" (Life Ethics, 2007). In other words, although there are definitely some advancements that have been made in this regards, there is also proof that the fact that the authors claim in the article that the cells are pluripotent is a fact which is not publicized enough. Therefore, although I do agree for the most part with the authors in regards to their arguments and points of view, at the same time I do have concerns with smaller issues that exist within, such as this one, of which could quite easily be taken care of.

## CONCLUSION

In conclusion, we can agree that we have discovered many things from reviewing this article, and one of the most notable and promising issues of all is in regards to the fact that, after reading this article, it is quite obvious that there are many new strategies that are able to be - and most likely soon will be - put into place, so that amniotic stem cell research can continue on with its progress, and only get better in the future.

## Works Cited

De Coppi, P et al. Isolation of Amniotic Stem Cell Lines With Potential for Therapy. Nature Biotechnology. 25, 100-106 (2007).

Life Ethics (2007). " Pluripotent" Amniotic/Placental Stem Cells, online article retrieved March 6, 2007, from <http://www.lifeethics.org/www.lifeethics.org/labels/stem%20cells.html>

Trounson, A (2007). 'Human Amniotic Fluid-Derived Stem Cells'. Nat Biotechnol, 25 (1), pp. 62-63.

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