



### PEER-REVIEW REPORT

**Name of journal:** World Journal of Gastroenterology

**Manuscript NO:** 53800

**Title:** Regenerative medicine of pancreatic islets

**Reviewer's code:** 02566952

**Position:** Editorial Board

**Academic degree:** MD, PhD

**Professional title:** Chief Doctor, Senior Researcher, Surgeon

**Reviewer's Country/Territory:** Romania

**Author's Country/Territory:** Russia

**Manuscript submission date:** 2019-12-30

**Reviewer chosen by:** AI Technique

**Reviewer accepted review:** 2020-01-02 09:16

**Reviewer performed review:** 2020-01-02 10:39

**Review time:** 1 Hour

<b>Scientific quality</b>	<input type="checkbox"/> Grade A: Excellent <input checked="" type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input type="checkbox"/> Grade A: Priority publishing <input checked="" type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
<b>Conclusion</b>	<input type="checkbox"/> Accept (High priority) <input type="checkbox"/> Accept (General priority) <input checked="" type="checkbox"/> Minor revision <input type="checkbox"/> Major revision <input type="checkbox"/> Rejection
<b>Re-review</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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## **SPECIFIC COMMENTS TO AUTHORS**

To authors A well written and well organized review manuscript introducing basic principles and tendencies in pancreatic islands regeneration. Comments Abstract is well written and introduces the reader within the topic. Maybe presenting information in shorter phrases and reducing text will be of benefit, A well written presentation of pancreas endocrine and exocrine functions together with arguments regarding the need for beta cell regeneration strategies (as opposed to transplantation). In my personal opinion the word reimbursed needs to be changed as it is not reflecting properly the nuance intended (that is hormone replacement). Same goes with "incompensable" . Maybe the reader will benefit a more schematic presentation of DM types and correlation with the situation of beta cells (a table, a schematic drawing?) Captivating presentation of means of spontaneous beta cell regeneration (one small observation also traceable using trivial word corrector regarding the length and usage of verb in the phrase starting with " An interesting assumption" Among the issues encountered with the so called bioartificial pancreas it would be worth to mention the challenges in executing insulin levels sensing implants that adjust insulin secretion to circulating glucose therefore avoiding both engineered islet exhaustion as well as hypoglycemic episode in transplanted hosts. There is a difference between attempting treating beta cell deficiency with non differentiated MSCs (which act, as authors themselves mention) as "medicinal signaling cells' with trophic effect (angiogenesis, anti-inflammatory and so son) and the transplantation of MSCs that have been differentiated to endodermic lineages that is in this case to beta cell progeny. There are non genetic modifying protocols for doing this, however the capability of such MSCs derived beta cells to engraft and function is still limited The manuscript contains generous information regarding existent clinical trials in the trade. A synthetic presentation of existent/ finished/ recruiting clinical trials ( table) would help the reader to have an overview



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regarding this important aspect



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**Reviewer's code:** 00504828

**Position:** Peer Reviewer

**Academic degree:** PhD

**Professional title:** Adjunct Professor, Doctor, Research Associate

**Reviewer's Country/Territory:** United States

**Author's Country/Territory:** Russia

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<b>Scientific quality</b>	<input checked="" type="checkbox"/> Grade A: Excellent <input type="checkbox"/> Grade B: Very good <input type="checkbox"/> Grade C: Good <input type="checkbox"/> Grade D: Fair <input type="checkbox"/> Grade E: Do not publish
<b>Language quality</b>	<input checked="" type="checkbox"/> Grade A: Priority publishing <input type="checkbox"/> Grade B: Minor language polishing <input type="checkbox"/> Grade C: A great deal of language polishing <input type="checkbox"/> Grade D: Rejection
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<b>Re-review</b>	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>Peer-reviewer statements</b>	Peer-Review: <input checked="" type="checkbox"/> Anonymous <input type="checkbox"/> Onymous Conflicts-of-Interest: <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No



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#### **SPECIFIC COMMENTS TO AUTHORS**

Major comments 1. Although I do think that the manuscript is comprehensive, checking followings may help stand out this manuscript; a. Page 10 “The second strategy implies creation of....specific expression of cognate receptors for toxins...”. I think that the authors may explain this background/rationale better, otherwise non-experts would not be able to understand why such toxin receptors b. Page 8~ “Modeling the endocrine pancreas regeneration”. It is great to know the details of b-cell ablation. However, I feel that “regeneration” part is downplayed in this section. 2. I am just curious if adipose-derived stem cells or adipose-derived mesenchymal stem cells can be differentiated into pancreatic cells. Minor comments none