

32

Name of Journal: *World Journal of Stem Cells***Manuscript NO:** 57914**Manuscript Type:** MINIREVIEW**Pancreatic β cell regeneration induced by clinical and preclinical agents**

Kang-Li Wang, Ming Tao, Tian-Jiao Wei, Rui Wei

Abstract

Diabetes, one of the most common chronic diseases in the modern world, has pancreatic β cell deficiency as a major part of its pathophysiological mechanism. Pancreatic regeneration is a potential therapeutic strategy for the recovery of β cell loss. However, endocrine islets have limited regenerative capacity, especially in adult humans. Almost all hypoglycemic drugs can protect β cells by inhibiting β cell apoptosis and dedifferentiation *via* correction of hyperglycemia and

Match Overview

1	Crossref 176 words Qiao Zhou, Douglas A. Melton. "Pancreas regeneration", <i>Nature</i> , 2018	3%
2	Crossref 138 words Cristina Aguayo-Mazzucato, Susan Bonner-Weir. "Pancreatic β Cell Regeneration as a Possible Therapy for Diabetes"	3%
3	Internet 86 words crawled on 03-Sep-2020 www.nature.com	2%
4	Internet 55 words crawled on 02-Sep-2020 www.frontiersin.org	1%
5	Internet 48 words crawled on 03-Apr-2020 journals.plos.org	1%
6	Internet 37 words crawled on 29-Jul-2018 www.pnas.org	1%
7	Crossref 37 words Simona Chera, Pedro L Herrera. "Regeneration of pancreatic insulin-producing cells by in situ adaptive cell conversion"	1%
8	Internet 32 words crawled on 04-Jul-2020	1%

+ 2.3K/s
+ 0.4K/s
50%

Pancreatic β cell regeneration induced by clinical and preclinical agents

Sign in

ALL IMAGES VIDEOS

585,000 Results Any time

Endogenous Pancreatic β Cell Regeneration: A Potential ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6391341>

Feb 20, 2019 · **Endogenous pancreatic β cell regeneration** is a potential strategy for **β cell expansion** or neogenesis to treat diabetes. **Regeneration** can occur through stimulation of existing **β cell replication** or **conversion** of other **pancreatic cells** into **β cells**.

Cited by: 9 Author: Fan Zhong, Fan Zhong, Yan Jiang

Publish Year: 2019

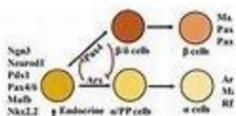
Search Tools

Turn off Hover Translation (关闭取词)

Frontiers | Endogenous Pancreatic β Cell Regeneration: A ...

<https://www.frontiersin.org/articles/10.3389/fendo.2019.00101>

Introduction Replication of Existing Pancreatic β Cell Regeneration Reprogramming of Other Pancreatic Cell Types



The pancreas plays an essential role in energy consumption and metabolism. It consists of two functionally and morphologically distinct components: the exocrine and endocrine.

ALL

IMAGES

VIDEOS

572,000 Results

Any time ▾

Concise Review: Pancreas Regeneration: Recent Advances and ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3659687>

Evidence of In Vivo **Regeneration** Capacity of β -Cells. Much enthusiasm about regenerating **pancreatic β -cells** in situ has been driven by evidence of the impressive proliferation capacity of postnatal rodent β -cells in situations of increased metabolic demand []. For example, in the mouse, pre-existing β -cells were shown to be responsible for the **pancreas regeneration** that occurs after 70% ...

Cited by: 90

Author: Philippe A. Lysy, Gordon C. Weir, Susan Bon...

Publish Year: 2012

Pancreatic β Cell Regeneration as a Possible Therapy for ...

<https://www.sciencedirect.com/science/article/pii/S1550413117304928>

Jan 09, 2018 · **Pancreatic β Cell Regeneration** as a Possible Therapy for Diabetes. ... These **induced β cells** were indistinguishable from endogenous islet β cells in size, shape, ... These data provide a possible unprecedented **β cell regeneration** strategy using a known and approved therapeutic **agent**; we expect **clinical trials** will be coming.

Cited by: 76

Author: Cristina Aguayo-Mazzucato, Susan Bonner-...

Publish Year: 2018

Regenerative medicine of pancreatic islets

<https://pubmed.ncbi.nlm.nih.gov/32587441>

Natural restrictions on the islet **regeneration** are very tight; nevertheless, the islets are capable of physiological **regeneration** via **β -cell** self-replication, direct differentiation of multipotent progenitor **cells** and spontaneous α - to β - or δ - to **β -cell** conversion (trans-differentiation). The existing **preclinical** models of **β -cell** ...

Author: Irina V Arutyunyan, Timur Kh Fatkhudin...

Publish Year: 2020

Frontiers | Endogenous Pancreatic β Cell Regeneration: A ...

<https://www.frontiersin.org/articles/10.3389/fendo.2019.00101> ▾

Introduction

Replication of Existing Pancrea...

Reprogramming of Other Pancr



The pancreas plays an essential role in energy consumption and metabolism. It consists

Search Tools

Turn off Hover Translation (关闭取词)



ALL

IMAGES

VIDEOS

559,000 Results

Any time ▾

[Pancreatic \$\beta\$ Cell Regeneration as a Possible Therapy for ...](https://www.sciencedirect.com/science/article/pii/S1550413117304928)

<https://www.sciencedirect.com/science/article/pii/S1550413117304928>

Jan 09, 2018 · **Pancreatic β Cell Regeneration** as a Possible Therapy for Diabetes. ... These **induced β cells** were indistinguishable from endogenous islet **β cells** in size, shape, ... These data provide a possible unprecedented **β cell regeneration** strategy using a known and approved therapeutic **agent**; we expect **clinical** trials will be coming.

Cited by: 76

Author: Cristina Aguayo-Mazzucato, Susan Bonner-...

Publish Year: 2018

[Concise Review: Pancreas Regeneration: Recent Advances and ...](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3659687)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3659687>

Evidence of In Vivo **Regeneration** Capacity of **β -Cells**. Much enthusiasm about regenerating **pancreatic β -cells** in situ has been driven by evidence of the impressive proliferation capacity of postnatal rodent **β -cells** in situations of increased metabolic demand [1]. For example, in the mouse, pre-existing **β -cells** were shown to be responsible for the **pancreas regeneration** that occurs after 70% ...

Cited by: 90

Author: Philippe A. Lysy, Gordon C. Weir, Susan Bon...

Publish Year: 2012

[Regenerative medicine of pancreatic islets](https://pubmed.ncbi.nlm.nih.gov/32587441)

<https://pubmed.ncbi.nlm.nih.gov/32587441>

Natural restrictions on the islet **regeneration** are very tight; nevertheless, the islets are capable of physiological **regeneration** via **β -cell** self-replication, direct differentiation of multipotent progenitor **cells** and spontaneous α - to **β -** or δ - to **β -cell** conversion (trans-differentiation). The existing **preclinical** models of **β -cell** ...

Author: Irina V Arutyunyan, Timur Kh Fatkhudin...

Publish Year: 2020

[Frontiers | Endogenous Pancreatic \$\beta\$ Cell Regeneration: A ...](https://www.frontiersin.org/articles/10.3389/fendo.2019.00101)

<https://www.frontiersin.org/articles/10.3389/fendo.2019.00101> ▾

Introduction

Replication of Existing Pancrea...

Reprogramming of Other Pancr



Search Tools

[Turn off Hover Translation](#)