

Name of Journal: *World Journal of Diabetes*

Manuscript NO: 57809

Manuscript Type: REVIEW

Diabetes-induced changes in cardiac voltage-gated ion channels

Ozturk N *et al.* DCM and voltage-gated ion channels

Nihal Ozturk, Serkan Uslu, Semir Ozdemir

Abstract

Diabetes mellitus affects the heart through various mechanisms such as microvascular defects, metabolic abnormalities, autonomic dysfunction and incompatible immune response. Furthermore, it can also cause functional and structural changes in the myocardium through a disease known as diabetic cardiomyopathy (DCM) in the absence of coronary artery disease. As DCM progresses it causes electrical remodeling of the heart. left ventricular dysfunction and heart failure. Electrophysiological changes

Match Overview

| Match Number | Source | Words | Percentage |
|--------------|--|-----------|------------|
| 1 | Internet openaccess.sgul.ac.uk | 283 words | 4% |
| 2 | Internet crawled on 30-Aug-2017 academic.oup.com | 253 words | 4% |
| 3 | Internet crawled on 13-Oct-2020 www.kjim.org | 140 words | 2% |
| 4 | Crossref Guanghong Jia, Michael A. Hill, James R. Sowers. "Diabetic Cardiomyopathy", <i>Circulation Research</i> , 2018 | 98 words | 1% |
| 5 | Crossref Torres-Jacome, J., M. Gallego, J. M. Rodríguez-Robledo, J. A. Sanchez-Chapula, and O. Casis. "Improvement of th | 82 words | 1% |
| 6 | Internet crawled on 05-Apr-2018 www.mdpi.com | 72 words | 1% |
| 7 | Crossref Lei Chen, Kevin J. Sampson, Robert S. Kass. "Cardiac ... elayed Rectifier Potassium Channels in Health and Disea | 53 words | 1% |
| 8 | Crossref Angelica Lopez-Izquierdo, Renata O. Pereira, Adam R. Wende, Bonnie B. Punske, E. Dale Abel, Martin Tristani-Fir | 53 words | 1% |

ALL IMAGES VIDEOS

274,000 Results Any time ▾

Diabetes-Induced Inhibition of Voltage-Dependent Calcium ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3061518>

Diabetes-Induced Inhibition of Voltage-Dependent Calcium **Channels** in the Retinal Microvasculature: Role of Spermine Kenji Matsushita , 1 Masanori Fukumoto , 1 Takatoshi Kobayashi , 1 Masato Kobayashi , 1 Eisuke Ishizaki , 1 Masahiro Minami , 1 Kozo Katsumura , 1 Sophie D. Liao , 1 David M. Wu , 1 Ting Zhang , 1, 2 and Donald G. Puro 1, 3

Cited by: 26 **Author:** Kenji Matsushita, Masanori Fukumoto, Tak...

Publish Year: 2010

Ca²⁺/calmodulin-dependent protein kinase II-based ...

<https://pubmed.ncbi.nlm.nih.gov/23008441>

Importantly, aberrant myocyte signaling has been linked to defects in **cardiac ion channel** posttranslational modifications and disease. We recently identified a novel pathway for posttranslational regulation of the primary **cardiac voltage-gated Na⁺ channel** (Na(v)1.5) by Ca(2+)/calmodulin-dependent protein kinase II (CaMKII).

Functional impairment of renal afferent arteriolar voltage ...

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC507714>

Dec 01, 1996 · Experiments were performed to test the hypothesis that diabetes mellitus is associated with impaired afferent arteriolar responsiveness to opening of **voltage-gated calcium channels**. Diabetes was induced by injection of streptozocin (65 mg/kg, i.v.) and insulin was administered via an osmotic minipump to achieve moderate hyperglycemia.

Cited by: 95 **Author:** Pamela K. Carmines, Kazuhisa Ohishi, Hide...

Publish Year: 1996

Voltage-Gated Ion Channels in Human Pancreatic β -Cells ...

<https://diabetes.diabetesjournals.org/content/57/6/1618> ▾

Jun 01, 2008 · **OBJECTIVE**— To characterize the **voltage-gated ion channels** in human β -cells from nondiabetic donors and their role in glucose-stimulated insulin release. **RESEARCH DESIGN AND METHODS**— Insulin release was measured from intact islets. Whole-cell patch-clamp experiments and measurements of cell capacitance were performed on isolated β -cells.

Cited by: 440 **Author:** Matthias Braun, Reshma Ramracheya, Mar...

Publish Year: 2008

Ion Channels and Vascular Diseases | Arteriosclerosis ...

<https://www.ahajournals.org/doi/10.1161/ATVBAHA.119.312004>

Ion channels in endothelial and smooth muscle cells. **Ion channels** are expressed in vascular endothelial and smooth muscle cells, including Ca²⁺, K⁺, Na⁺ and Cl⁻ **channels**. **Ion channels** open in response to stimuli to modulate membrane potential (Vm), regulate [Ca²⁺]_i, and initiate cell contractions and other Ca²⁺-dependent processes

Cited by: 7 **Author:** Jun Cheng, Jing Wen, Na Wang, Claire Wan...

Publish Year: 2019

Some results are removed in response to a notice of local law requirement. For more information, please see [here](#).

1 2 3 4 5 >

Search Tools

Turn off Hover Translation (关闭取词)

ALL

IMAGES

VIDEOS

MAPS

NEWS

SHOPPING

276,000 Results

Any time ▾

[Diabetes-Induced Inhibition of Voltage-Dependent Calcium ...](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3061518)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3061518>

Diabetes-Induced Inhibition of Voltage-Dependent Calcium **Channels** in the Retinal Microvasculature: Role of Spermine Kenji Matsushita , 1 Masanori Fukumoto , 1 Takatoshi Kobayashi , 1 Masato Kobayashi , 1 Eisuke Ishizaki , 1 Masahiro Minami , 1 Kozo Katsumura , 1 Sophie D. Liao , 1 David M. Wu , 1 Ting Zhang , 1, 2 and Donald G. Puro 1, 3

Cited by: 26**Author:** Kenji Matsushita, Masanori Fukumoto, Tak...**Publish Year:** 2010

[Voltage-Gated Ion Channels in Human Pancreatic \$\beta\$ -Cells ...](https://diabetes.diabetesjournals.org/content/57/6/1618)

<https://diabetes.diabetesjournals.org/content/57/6/1618> ▾

Jun 01, 2008 · **OBJECTIVE**— To characterize the **voltage-gated ion channels** in human β -cells from nondiabetic donors and their role in glucose-stimulated insulin release. **RESEARCH DESIGN AND METHODS**— Insulin release was measured from intact islets. Whole-cell patch-clamp experiments and measurements of cell capacitance were performed on isolated β -cells.

Cited by: 440**Author:** Matthias Braun, Reshma Ramracheya, Mar...**Publish Year:** 2008

[Functional impairment of renal afferent arteriolar voltage ...](https://www.ncbi.nlm.nih.gov/pmc/articles/PMC507714)

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC507714>

Dec 01, 1996 · Experiments were performed to test the hypothesis that diabetes mellitus is associated with impaired afferent arteriolar responsiveness to opening of **voltage-gated calcium channels**. Diabetes was induced by injection of streptozocin (65 mg/kg, i.v.) and insulin was administered via an osmotic minipump to achieve moderate hyperglycemia.

Cited by: 95**Author:** Pamela K. Carmines, Kazuhisa Ohishi, Hide...**Publish Year:** 1996

PEOPLE ALSO ASK

What are cardiac K channels? ▾

What is voltage-gated ion channel? ▾