

# Frank Christopher Howarth

Medicine & Health Science, Physiology

## Current Appointments:

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## 93 Publications

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### 93 Publications from Scopus

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- 2014 Lina T. Al Kury; Oleg I. Voitychuk; Ramiz M. Ali; Sehamuddin Galadari; Keun-Hang Susan Yang; Frank Christopher Howarth; Yaroslav M. Shuba; Murat Oz  
**Effects of endogenous cannabinoid anandamide on excitation-contraction coupling in rat ventricular myocytes**  
Cell Calcium. 2014;55(2):104-118.
- 
- 2014 Alicia D'Souza; Frank C. Howarth; Joseph Yanni; Halina Dobrzynski; Mark R. Boyett; Ernest Adeghate; Keshore R. Bidasee; Jaipaul Singh  
**Chronic effects of mild hyperglycaemia on left ventricle transcriptional profile and structural remodelling in the spontaneously type 2 diabetic Goto-Kakizaki rat**  
Heart Failure Reviews. 2014;19(1):65-74.
- 
- 2014 Lina T. Al Kury; Keun-Hang Susan Yang; Faisal T. Thayyullathil; Mohanraj Rajesh; Ramez M. Ali; Yaroslav M. Shuba; Frank Christopher Howarth; Sehamuddin Galadari; Murat Oz  
**Effects of endogenous cannabinoid anandamide on cardiac Na<sup>+</sup>/Ca<sup>2+</sup> exchanger**  
Cell Calcium. 2014;55(5):231-237.
- 
- 2014 E.M. Gaber; P. Jayaprakash; M.A. Qureshi; K. Parekh; M. Oz; T.E. Adrian; F.C. Howarth  
**Effects of a sucrose-enriched diet on the pattern of gene expression, contraction and Ca<sup>2+</sup> transport in Goto-Kakizaki type 2 diabetic rat heart**  
Experimental Physiology. 2014;99(6):881-893.
- 
- 2014 Lina T. Al Kury; Oleg I. Voitychuk; Keun-Hang Susan Yang; Faisal T. Thayyullathil; Petro Doroshenko; Ali M Ramez; Yaroslav M. Shuba; Sehamuddin Galadari; Frank Christopher Howarth; Murat Oz  
**Effects of the endogenous cannabinoid anandamide on voltage-dependent sodium and calcium channels in rat ventricular myocytes**  
British Journal of Pharmacology. 2014;171(14):3485-3498.
- 
- 2013 Elhadi H. Aburawi; Mohammed Anwar Qureshi; Deniz Oz; Petrilla Jayaprakash; Saeed Tariq; Rashed S. Hameed; Sayantani Das; Anandarup Goswami; Ankush V. Biradar; Tewodros Asefa; et al.  
**Biocompatibility of calcined mesoporous silica particles with ventricular myocyte structure and function**  
Chemical Research in Toxicology. 2013;26(1):26-36.
- 
- 2013 Mohamed Abdelmonem Fahim; Frank Christopher Howarth; Abderrahim Nemmar; Mohamed Anwar

- Qureshi; Mohamed Shafiullah; Petrilla Jayaprakash; Mohamed Yousif Hasan  
**Vitamin E Ameliorates the Decremental Effect of Paraquat on Cardiomyocyte Contractility in Rats**  
PLoS ONE. 2013;8(3).
- 
- 2013 K.A. Salem; M.A. Qureshi; V. Sydorenko; K. Parekh; P. Jayaprakash; T. Iqbal; J. Singh; M. Oz; T.E. Adrian; F.C. Howarth  
**Effects of exercise training on excitation-contraction coupling and related mRNA expression in hearts of Goto-Kakizaki type 2 diabetic rats**  
Molecular and Cellular Biochemistry. 2013;380(1-2):83-96.
- 
- 2013 Abrar Ashoor; Jacob C. Nordman; Daniel Veltri; Keun-Hang Susan Yang; Lina Al Kury; Yaroslav Shuba; Mohamed Mahgoub; Frank C. Howarth; Bassem Sadek; Amarda Shehu; et al.  
**Menthol Binding and Inhibition of  $\alpha 7$ -Nicotinic Acetylcholine Receptors**  
PLoS ONE. 2013;8(7).
- 
- 2013 Abrar Ashoor; Jacob C. Nordman; Daniel Veltri; Keun-Hang Susan Yang; Yaroslav Shuba; Lina Al Kury; Bassem Sadek; Frank C. Howarth; Amarda Shehu; Nadine Kabbani; et al.  
**Menthol inhibits 5-HT<sub>3</sub> receptor-mediated currents**  
Journal of Pharmacology and Experimental Therapeutics. 2013;347(2):398-409.
- 
- 2013 A. Ashoor; J.C. Nordman; D. Veltri; S.K.-H. Yang; Y. Shuba; L. Al Kury; B. Sadek; F.C. Howarth; A. Shehu; N. Kabbani; et al.  
**Erratum: Menthol inhibits 5-HT<sub>3</sub> receptor-mediated currents (Journal of Pharmacology and Experimental Therapeutics (2013) 347 (398-409) DOI: 10.1124/jpet.113.203976)**  
Journal of Pharmacology and Experimental Therapeutics. 2013;347(3):816.
- 
- 2013 Haider Raza; Annie John; Frank Christopher Howarth  
**Increased metabolic stress in Zucker diabetic fatty rat kidney and pancreas**  
Cellular Physiology and Biochemistry. 2013;32(6):1610-1620.
- 
- 2012 F.C. Howarth; M.A. Qureshi; Z. Hassan; D. Isaev; K. Parekh; A. John; M. Oz; H. Raza; E. Adeghate; T.E. Adrian  
**Contractility of ventricular myocytes is well preserved despite altered mechanisms of Ca<sup>2+</sup> transport and a changing pattern of mRNA in aged type 2 Zucker diabetic fatty rat heart.**  
Molecular and cellular biochemistry. 2012;361(1-2):267-280.
- 
- 2012 Oleg I. Voitychuk; Valentyna S. Asmolkova; Nadiya M. Gula; Ganna V. Sotkis; Sehamuddin Galadari; Frank C. Howarth; Murat Oz; Yaroslav M. Shuba  
**Modulation of excitability, membrane currents and survival of cardiac myocytes by N-acylethanolamines**  
Biochimica et Biophysica Acta - Molecular and Cell Biology of Lipids. 2012;1821(9):1167-1176.
- 
- 2012 Haider Raza; Annie John; Frank C. Howarth  
**Alterations in glutathione redox metabolism, oxidative stress, and mitochondrial function in the left ventricle of elderly Zucker diabetic fatty rat heart**  
International Journal of Molecular Sciences. 2012;13(12):16241-16254.
- 
- 2012 K.A. Salem; T.E. Adrian; M.A. Qureshi; K. Parekh; M. Oz; F.C. Howarth  
**Shortening and intracellular Ca<sup>2+</sup> in ventricular myocytes and expression of genes encoding cardiac muscle proteins in early onset type 2 diabetic Goto-Kakizaki rats**  
Experimental Physiology. 2012;97(12):1281-1291.
- 
- 2011 Frank Christopher Howarth; Zahra Hassan; Muhammad Anwar Qureshi

**The chronic effects of neonatal alloxan-induced diabetes mellitus on ventricular myocyte shortening and cytosolic Ca<sup>2+</sup>**

Molecular and Cellular Biochemistry. 2011;347(1-2):71-77.

---

2011 F.C. Howarth; M.A. Qureshi; Z. Hassan; L.T. Al Kury; D. Isaev; K. Parekh; S.R.K.D. Yammahi; M. Oz; T.E. Adrian; E. Adeghate

**Changing pattern of gene expression is associated with ventricular myocyte dysfunction and altered mechanisms of Ca<sup>2+</sup> signalling in young type 2 Zucker diabetic fatty rat heart**

Experimental Physiology. 2011;96(3):325-337.

---

2011 Frank Christopher Howarth; Mohamed Shafiullah; Ernest Adeghate; Milos Ljubisavljevic; Michael Jacobson

**Heart rhythm disturbances in the neonatal alloxan-induced diabetic rat**

Pathophysiology. 2011;18(3):185-192.

---

2011 F.C. Howarth; M. Jacobson; M. Shafiullah; M. Ljubisavljevic; E. Adeghate

**Heart rate, body temperature and physical activity are variously affected during insulin treatment in alloxan-induced type 1 diabetic rat**

Physiological Research. 2011;60(1):65-73.

---

2011 Frank C. Howarth; Muhammad A. Qureshi; Zahra H.H. Sobhy; Khatija Parekh; Salem R.R.K.D. Yammahi; Thomas E. Adrian; Ernest Adeghate

**Structural lesions and changing pattern of expression of genes encoding cardiac muscle proteins are associated with ventricular myocyte dysfunction in type 2 diabetic Goto-Kakizaki rats fed a high-fat diet**

Experimental Physiology. 2011;96(8):765-777.

---

2011 Alicia D'Souza; Frank C. Howarth; Joseph Yanni; Halina Dobryznski; Mark R. Boyett; Ernest Adeghate; Keshore R. Bidasee; Jaipaul Singh

**Left ventricle structural remodelling in the prediabetic Goto-Kakizaki rat**

Experimental Physiology. 2011;96(9):875-888.

---

2011 F.C. Howarth; M.A. Qureshi; Z. Hassan; D. Isaev; K. Parekh; A. John; M. Oz; H. Raza; E. Adeghate; T.E. Adrian

**Contractility of ventricular myocytes is well preserved despite altered mechanisms of Ca<sup>2+</sup> transport and a changing pattern of mRNA in aged type 2 Zucker diabetic fatty rat heart**

Molecular and Cellular Biochemistry. 2011:1-14.

---

2011 Frank Christopher Howarth; Mey Khalfan Ahmed Ali Al Kitbi; Rasheed Shaul Hameed; Ernest Adeghate

**Pancreatic peptides in young and elderly zucker type 2 diabetic fatty rats**

Journal of the Pancreas. 2011;12(6):567-573.

---

2010 Frank Christopher Howarth; Fadwa A. Almugaddum; Muhammad A. Qureshi; Milos Ljubisavljevic

**The effects of heavy long-term exercise on ventricular myocyte shortening and intracellular Ca<sup>2+</sup> in streptozotocin-induced diabetic rat**

Journal of Diabetes and its Complications. 2010;24(4):278-285.

---

2010 Khawla Abdulla Salem; Anwar Qureshi; Milos Ljubisavljevic; Murat Oz; Dmytro Isaev; Munir Hussain; Frank Christopher Howarth

**Alloxan reduces amplitude of ventricular myocyte shortening and intracellular Ca<sup>2+</sup> without altering L-type Ca<sup>2+</sup> current, sarcoplasmic reticulum Ca<sup>2+</sup> content or myofilament sensitivity to Ca<sup>2+</sup> in Wistar rats**

Molecular and Cellular Biochemistry. 2010;340(1-2):115-123.

---

2009 J.F.B. Morrison; S. Dhanasekaran; F.C. Howarth

**Neuropeptides in the rat corpus cavernosum and seminal vesicle: Effects of age and two types of diabetes**

Autonomic Neuroscience: Basic and Clinical. 2009;146(1-2):76-80.

---

- 2009 Alison M. Gurney; Frank C. Howarth  
**Effects of streptozotocin-induced diabetes on the pharmacology of rat conduit and resistance intrapulmonary arteries**  
Cardiovascular Diabetology. 2009;8:[4].
- 
- 2009 K.A. Salem; M. Kosanovic; A. Qureshi; M. Ljubisavljevic; F.C. Howarth  
**The direct effects of streptozotocin and alloxan on contractile function in rat heart**  
Pharmacological Research. 2009;59(4):235-241.
- 
- 2009 J.F.B. Morrison; S. Dhanasekaran; F.C. Howarth  
**Neuropeptide Y and CGRP concentrations in the rat tail artery: Effects of age and two types of diabetes**  
Peptides. 2009;30(4):710-714.
- 
- 2009 F.C. Howarth; M. Jacobson; M.A. Qureshi; M. Shafiullah; R.S. Hameed; E. Zilahi; A. Al Haj; N. Nowotny; E. Adeghate  
**Altered gene expression may underlie prolonged duration of the QT interval and ventricular action potential in streptozotocin-induced diabetic rat heart**  
Molecular and Cellular Biochemistry. 2009;328(1-2):57-65.
- 
- 2009 Frank Christopher Howarth; Farida Mohammed Abdulla Marzouqi; Amal Mohammed Salem Al Saeedi; Rasheed Shaul Hameed; Ernest Adeghate  
**The effect of a heavy exercise program on the distribution of pancreatic hormones in the streptozotocin-induced diabetic rat**  
Journal of the Pancreas. 2009;10(5):485-491.
- 
- 2009 Frank Christopher Howarth; F.A. Almagaddum; M.A. Qureshi; M. Ljubisavljevic  
**Effects of varying intensity exercise on shortening and intracellular calcium in ventricular myocytes from streptozotocin (STZ)-induced diabetic rats (Molecular and Cellular Biochemistry (2008) 317 (161-167) DOI: 10.1007/s11010-008-9844-z)**  
Molecular and Cellular Biochemistry. 2009;329(1-2):181.
- 
- 2009 Alicia D'Souza; Munir Hussain; Frank C. Howarth; Niall M. Woods; Keshore Bidasee; Jaipaul Singh  
**Pathogenesis and pathophysiology of accelerated atherosclerosis in the diabetic heart**  
Molecular and Cellular Biochemistry. 2009;331(1-2):89-116.
- 
- 2008 Frank C. Howarth; Michael Jacobson; Mohamed Shafiullah; Ernest Adeghate  
**Long-term effects of type 2 diabetes mellitus on heart rhythm in the Goto-Kakizaki rat**  
Experimental Physiology. 2008;93(3):362-369.
- 
- 2008 Frank Christopher Howarth; M.A. Qureshi  
**Myofilament sensitivity to Ca<sup>2+</sup> in ventricular myocytes from the Goto-Kakizaki diabetic rat**  
Molecular and Cellular Biochemistry. 2008;315(1-2):69-74.
- 
- 2008 Frank Christopher Howarth; F.A. Almagaddum; M.A. Qureshi; M. Ljubisavljevic  
**Effects of varying intensity exercise on shortening and intracellular calcium in ventricular myocytes from streptozotocin (STZ)-induced diabetic rats**  
Molecular and Cellular Biochemistry. 2008;317(1-2):161-167.
-

- 2008 F. Chris Howarth; N.J. Chandler; S. Kharche; J.O. Tellez; I.D. Greener; T.T. Yamanushi; R. Billeter; M.R. Boyett; H. Zhang; H. Dobrzynski  
**Effects of streptozotocin-induced diabetes on connexin43 mRNA and protein expression in ventricular muscle**  
Molecular and Cellular Biochemistry. 2008;319(1-2):105-114.
- 
- 2007 F. Chris Howarth; N. Nowotny; E. Zilahi; M.A. El Haj; M. Lei  
**Altered expression of gap junction connexin proteins may partly underlie heart rhythm disturbances in the streptozotocin-induced diabetic rat heart**  
Molecular and Cellular Biochemistry. 2007;305(1-2):145-151.
- 
- 2007 F.C. Howarth; M. Shafiullah; M.A. Qureshi  
**Chronic effects of type 2 diabetes mellitus on cardiac muscle contraction in the Goto-Kakizaki rat**  
Experimental Physiology. 2007;92(6):1029-1036.
- 
- 2007 Holly Shiels; Anthony O'Connell; M. Anwar Qureshi; F. Christopher Howarth; Ed White; Sarah Calaghan  
**Stable microtubules contribute to cardiac dysfunction in the streptozotocin-induced model of type 1 diabetes in the rat**  
Molecular and Cellular Biochemistry. 2007;294(1-2):173-180.
- 
- 2007 Chris F. Howarth; R. Al-Sharhan; A. Al-Hammadi; M.A. Qureshi  
**Effects of streptozotocin-induced diabetes on action potentials in the sinoatrial node compared with other regions of the rat heart**  
Molecular and Cellular Biochemistry. 2007;300(1-2):39-46.
- 
- 2007 Frank Christopher Howarth; S. Al Ali; S. Al-Sheryani; H. Al-Dhaheri; S.S. Al-Junaibi; F.A. Almagaddum; M.A. Qureshi; M. Ljubisavijevic  
**Effects of voluntary exercise on heart function in streptozotocin (STZ) - Induced diabetic rat**  
International Journal of Diabetes and Metabolism. 2007;15(2):32-37.
- 
- 2006 Ernest Adeghate; Frank Christopher Howarth; Hameed Rashed; Tariq Saeed; Amstrong Gbewonyo  
**The effect of a fat-enriched diet on the pattern of distribution of pancreatic islet cells in the C57BL/6J mice**  
Annals of the New York Academy of Sciences. 2006;1084:361-370.
- 
- 2006 Nicholas Bracken; Frank C. Howarth; Jaipaul Singh  
**Effects of streptozotocin-induced diabetes on contraction and calcium transport in rat ventricular cardiomyocytes**  
Annals of the New York Academy of Sciences. 2006;1084:208-222.
- 
- 2006 Frank C. Howarth; Noura Al Shamsi; Maryam Al Qaydi; Mariam Al Mazrouei; Anwar Qureshi; S.I. Chandranath; Elsadiq Kazzam; Abdu Adem  
**Effects of brain natriuretic peptide on contraction and intracellular Ca<sup>2+</sup> in ventricular myocytes from the streptozotocin-induced diabetic rat**  
Annals of the New York Academy of Sciences. 2006;1084:155-165.
- 
- 2006 F.C. Howarth; M. Jacobson; M. Shafiullah; E. Adeghate  
**Effects of insulin treatment on heart rhythm, body temperature and physical activity in streptozotocin-induced diabetic rat**  
Clinical and Experimental Pharmacology and Physiology. 2006;33(4):327-331.
- 
- 2006 F. Chris Howarth; M.A. Qureshi  
**Effects of carbenoxolone on heart rhythm, contractility and intracellular calcium in**

**streptozotocin-induced diabetic rat**

Molecular and Cellular Biochemistry. 2006;289(1-2):21-29.

---

- 2005 Chris F. Howarth; A. Qureshi; A. Shahin; M.L. Lukic  
**Effects of single high-dose and multiple low-dose streptozotocin on contraction and intracellular Ca<sup>2+</sup> in ventricular myocytes from diabetes resistant and susceptible rats**  
Molecular and Cellular Biochemistry. 2005;269(1):103-108.
- 
- 2005 F.C. Howarth; M. Jacobson; O. Naseer; E. Adeghate  
**Short-term effects of streptozotocin-induced diabetes on the electrocardiogram, physical activity and body temperature in rats**  
Experimental Physiology. 2005;90(2):237-245.
- 
- 2005 F. Chris Howarth; M.A. Qureshi; A.J. Gbewonyo; S. Tariq; E. Adeghate  
**The progressive effects of a fat enriched diet on ventricular myocyte contraction and intracellular Ca<sup>2+</sup> in the C57BL/6J mouse**  
Molecular and Cellular Biochemistry. 2005;273(1-2):87-95.
- 
- 2005 F.C. Howarth; A. Adem; E.A. Adeghate; N.A. Al Ali; A.M. Al Bastaki; F.R. Sorour; R.O. Hammoudi; N.A. Ghaleb; N.J. Chandler; H. Dobrzynski  
**Distribution of atrial natriuretic peptide and its effects on contraction and intracellular calcium in ventricular myocytes from streptozotocin-induced diabetic rat**  
Peptides. 2005;26(4):691-700.
- 
- 2005 F.C. Howarth; M. Jacobson; M. Shafiullah; E. Adeghate  
**Long-term effects of streptozotocin-induced diabetes on the electrocardiogram, physical activity and body temperature in rats**  
Experimental Physiology. 2005;90(6):827-835.
- 
- 2004 A. Rithalia; M.A. Qureshi; F.C. Howarth; S.M. Harrison  
**Effects of halothane on contraction and intracellular calcium in ventricular myocytes from streptozotocin-induced diabetic rats**  
British Journal of Anaesthesia. 2004;92(2):246-253.
- 
- 2004 Alyson Woodall; Nicolas Bracken; Anwar Qureshi; Frank Christopher Howarth; Jaipaul Singh  
**Halothane alters contractility and Ca<sup>2+</sup> transport in ventricular myocytes from streptozotocin-induced diabetic rats**  
Molecular and Cellular Biochemistry. 2004;261(1):251-261.
- 
- 2004 Mark Graham; Anwar Qureshi; Rabiah Noueihed; Simon Harrison; Frank Christopher Howarth  
**Effects of halothane, isoflurane, sevoflurane and desflurane on contraction of ventricular myocytes from streptozotocin-induced diabetic rats**  
Molecular and Cellular Biochemistry. 2004;261(1):209-215.
- 
- 2004 N.K. Bracken; A.J. Woodall; F.C. Howarth; J. Singh  
**Voltage-dependence of contraction in streptozotocin-induced diabetic myocytes**  
Molecular and Cellular Biochemistry. 2004;261(1):235-243.
- 
- 2004 Frank Christopher Howarth; Anwar Qureshi; Jaipaul Singh  
**Effects of acidosis on ventricular myocyte shortening and intracellular Ca<sup>2+</sup> in streptozotocin-induced diabetic rats**  
Molecular and Cellular Biochemistry. 2004;261(1):227-233.
-

- 2004 F. Chris Howarth; A. Qureshi; E. Adeghate  
**Contraction and intracellular free Ca<sup>2+</sup> concentration in ventricular myocytes from rats receiving sucrose-enriched diets**  
International Journal of Diabetes and Metabolism. 2004;12(1-2):5-9.
- 
- 2003 E. Adeghate; B. Al-Ramadi; A.M. Saleh; C. Vijayarasathy; A.S. Ponery; K. Arafat; F.C. Howarth; T. El-Sharkawy  
**Increase in neuronal nitric oxide synthase content of the gastroduodenal tract of diabetic rats**  
Cellular and Molecular Life Sciences. 2003;60(6):1172-1179.
- 
- 2003 Frank Christopher Howarth; Anwar Qureshi  
**Effects of halothane on ventricular myocyte shortening and intracellular Ca<sup>2+</sup> in streptozotocin-induced diabetic rats**  
Emirates Medical Journal. 2003;21(1):65-71.
- 
- 2003 F. Chris Howarth; A. Qureshi; D. Al-Mansoori; A.S. Ponery; O. Naseer; E. Adeghate  
**Contraction and intracellular Ca<sup>2+</sup> in ventricular myocytes from rats receiving fructose-enriched diets**  
International Journal of Diabetes and Metabolism. 2003;11(3):62-66.
- 
- 2002 F. Chris Howarth  
**Calcium signalling in streptozotocin-induced type 1 diabetic rat heart**  
International Journal of Diabetes and Metabolism. 2002;10(3):98-104.
- 
- 2002 F. Howarth; L. Glover; K. Culligan; M. Qureshi; K. Ohlendieck  
**Calsequestrin expression and calcium binding is increased in streptozotocin-induced diabetic rat skeletal muscle though not in cardiac muscle**  
Pflugers Archiv European Journal of Physiology. 2002;444(1-2):52-58.
- 
- 2002 F. Chris Howarth; M.A. Qureshi; E. White  
**Effects of hyperosmotic shrinking on ventricular myocyte shortening and intracellular Ca<sup>2+</sup> in streptozotocin-induced diabetic rats**  
Pflugers Archiv European Journal of Physiology. 2002;444(3):446-451.
- 
- 2002 F.C. Howarth; M.A. Qureshi; E. White; S.C. Calaghan  
**Cardiac microtubules are more resistant to chemical depolymerisation in streptozotocin-induced diabetes in the rat**  
Pflugers Archiv European Journal of Physiology. 2002;444(3):432-437.
- 
- 2001 A. Aberra; K. Komukai; F.C. Howarth; C.H. Orchard  
**The effect of acidosis on the ECG of the rat heart**  
Experimental Physiology. 2001;86(1):27-31.
- 
- 2001 J.F.B. Morrison; F.C. Howarth; R. Sheen  
**Catecholamines in the heart and adrenal gland of the STZ-diabetic rat**  
Archives of Physiology and Biochemistry. 2001;109(3 SPEC ISS.):206-208.
- 
- 2001 F.C. Howarth; M.A. Qureshi  
**Characterisation of ventricular myocyte shortening after administration of streptozotocin (STZ) to neonatal rats**  
Archives of Physiology and Biochemistry. 2001;109(3 SPEC ISS.):200-205.
-

- 2001 F.C. Howarth; M.A. Qureshi  
**Myofilament Ca<sup>2+</sup> sensitivity in ventricular myocytes from streptozotocin-induced diabetic rat**  
International Journal of Diabetes and Metabolism. 2001;9(3):67-74.
- 
- 2000 Claire L. Harwood; F. Chris Howarth; John D. Altringham; Ed White  
**Rate-dependent changes in cell shortening, intracellular Ca<sup>2+</sup> levels and membrane potential in single, isolated rainbow trout (*Oncorhynchus mykiss*) ventricular myocytes**  
Journal of Experimental Biology. 2000;203(3):493-504.
- 
- 2000 F.C. Howarth; M.A. Qureshi; P. Lawrence; E. Adeghate  
**Chronic effects of streptozotocin-induced diabetes on the ultrastructure of rat ventricular and papillary muscle**  
Acta Diabetologica. 2000;37(3):119-124.
- 
- 1999 F.C. Howarth; S.C. Calaghan; M.R. Boyett; E. White  
**Effect of the microtubule polymerizing agent taxol on contraction, Ca<sup>2+</sup> transient and L-type Ca<sup>2+</sup> current in rat ventricular myocytes**  
Journal of Physiology. 1999;516(2):409-419.
- 
- 1998 F.C. Howarth; M.R. Boyett; E. White  
**Rapid effects of cytochalasin-D on contraction and intracellular calcium in single rat ventricular myocytes**  
Pflugers Archiv European Journal of Physiology. 1998;436(5):804-806.
- 
- 1998 F. Chris Howarth; Allan J. Levi  
**Internal free magnesium modulates the voltage dependence of contraction and Ca transient in rabbit ventricular myocytes**  
Pflugers Archiv European Journal of Physiology. 1998;435(5):687-698.
- 
- 1997 Jaipaul Singh; Brenda I. Hustler; John J. Waring; Frank C. Howarth  
**Dietary and physiological studies to investigate the relationship between calcium and magnesium signalling in the mammalian myocardium**  
Molecular and Cellular Biochemistry. 1997;176(1-2):127-134.
- 
- 1997 Ernest A. Adeghate; Jaipaul Singh; Frank C. Howarth; Shuna Burrows  
**Control of porcine lacrimal gland secretion by non-cholinergic, non- adrenergic nerves: Effects of electrical field stimulation, VIP and NPY**  
Brain Research. 1997;758(1-2):127-135.
- 
- 1997 Ion A. Hobai; Jenny A. Bates; F. Chris Howarth; Allan J. Levi  
**Inhibition by external Cd<sup>2+</sup> of Na/Ca exchange and L-type Ca channel in rabbit ventricular myocytes**  
American Journal of Physiology - Heart and Circulatory Physiology. 1997;272(5 41-5):H2164-H2172.
- 
- 1997 Ion A. Hobai; F. Chris Howarth; Vijay K. Pabbathi; Geoff R. Dalton; Jules C. Hancox; Jie-Quan Zhu; Susan E. Howlett; Gregory R. Ferrier; Allan J. Levi  
**'Voltage-activated Ca release' in rabbit, rat and guinea-pig cardiac myocytes, and modulation by internal cAMP**  
Pflugers Archiv European Journal of Physiology. 1997;435(1):164-173.
- 
- 1997 Allan J. Levi; Geoff R. Dalton; Jules C. Hancox; John S. Mitcheson; Jon Issberner; Jennifer A. Bates; Stephen J. Evans; F. Chris Howarth; Ion A. Hobai; John V. Jones  
**Role of intracellular sodium overload in the genesis of cardiac arrhythmias**



- 1997 Ion A. Hobai; Jenny A. Bates; F. Chris Howarth; Allan J. Levi  
**Inhibition by external Cd<sup>2+</sup> of Na/Ca exchange and L-type Ca channel in rabbit ventricular myocytes**  
American Journal of Physiology - Heart and Circulatory Physiology. 1997;41(5):H2164-H2172.
- 
- 1996 Allan J. Levi; Jules C. Hancox; F. Chris Howarth; Jeff Croker; John Vinnicombe  
**A method for making rapid changes of superfusate whilst maintaining temperature at 37°C**  
Pflugers Archiv European Journal of Physiology. 1996;432(5):930-937.
- 
- 1996 Brenda I. Hustler; Jaipaul Singh; John J. Waring; Frank C. Howarth  
**Dietary and physiological studies involving magnesium homeostasis in the heart**  
Annals of the New York Academy of Sciences. 1996;793:473-478.
- 
- 1996 F.C. Howarth; Allan J. Levi; Jules C. Hancox  
**Characteristics of the delayed rectifier K current compared in myocytes isolated from the atrioventricular node and ventricle of the rabbit heart**  
Pflugers Archiv European Journal of Physiology. 1996;431(5):713-722.
- 
- 1995 B.I. Hustler; J. Singh; J.J. Waring; F.C. Howarth  
**Mechanisms responsible for the increased magnesium efflux associated with raised [Na<sup>+</sup>]<sub>o</sub> in the isolated perfused rat heart.**  
Magnesium research : official organ of the International Society for the Development of Research on Magnesium. 1995;8(4):307-314.
- 
- 1995 F.C. Howarth; J. Singh; J.J. Waring; B.I. Hustler; M. Bailey  
**Effects of monovalent cations, pH and temperature on the dissociation constant (KD) for the fluorescent indicator mag-fura-2 at different excitation wavelengths.**  
Magnesium research : official organ of the International Society for the Development of Research on Magnesium. 1995;8(4):299-306.
- 
- 1995 Jules C. Hancox; Chris Howarth  
**The actions of nickel on membrane currents activated by hyperpolarisation in single cells from the rabbit atrioventricular node**  
General Pharmacology. 1995;26(8):1727-1734.
- 
- 1994 J. Singh; E. Adeghate; S. Burrows; F.C. Howarth; R.M. Williams  
**Immunohistochemistry and protein secretion in the rat lacrimal gland: A morphophysiological study**  
Advances in Experimental Medicine and Biology. 1994;350:25-30.
- 
- 1994 E. Adeghate; J. Singh; S. Burrows; F.C. Howarth; T. Donath  
**Secretory responses and peptidergic and aminergic innervation of the rat lacrimal gland**  
Biogenic Amines. 1994;10(5):487-498.
- 
- 1994 J. Singh; E. Adeghate; S. Burrows; F.C. Howarth; T. Donath  
**Protein secretion and the identification of neurotransmitters in the isolated pig lacrimal gland**  
Advances in Experimental Medicine and Biology. 1994;350:57-60.
- 
- 1994 F.C. Howarth; J. Waring; B.I. Hustler; J. Singh  
**Effects of extracellular magnesium and beta adrenergic stimulation on contractile force and**

**magnesium mobilization in the isolated rat heart.**

Magnesium research : official organ of the International Society for the Development of Research on Magnesium. 1994;7(3-4):187-197.

---

1993

F.C. Howarth; J. Singh; J.J. Waring

**Studies on magnesium mobilization and contractile force in the isolated rat heart**

Journal of Physiology. 1993;467:56P.

---

1993

F.C. Howarth; J.J. Waring; J. Singh

**Effect of low, normal and high magnesium diets on growth and cation concentrations in plasma, bone and heart of young rats**

Journal of Physiology. 1993;473:186P.

---