

Matti Vornanen

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89 papers	2,102 citations	26 h-index	40 g-index
92 ext. papers	2,368 ext. citations	2.9 avg, IF	5.5 L-index

#	Paper	IF	Citations
89	Plasticity of excitation-contraction coupling in fish cardiac myocytes. <i>Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology</i> , 2002 , 132, 827-46	2.6	118
88	The force-frequency relationship in fish hearts--a review. <i>Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology</i> , 2002 , 132, 811-26	2.6	94
87	Steady-state effects of temperature acclimation on the transcriptome of the rainbow trout heart. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2005 , 289, R1177-84 ^{3.2}	3.2	87
86	Zebrafish heart as a model for human cardiac electrophysiology. <i>Channels</i> , 2016 , 10, 101-10	3	79
85	Cold acclimation increases basal heart rate but decreases its thermal tolerance in rainbow trout (<i>Oncorhynchus mykiss</i>). <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2001 , 171, 173-9	2.2	76
84	Effect of Season and Temperature Acclimation on the Function of Crucian Carp (<i>Carassius Carassius</i>) Heart. <i>Journal of Experimental Biology</i> , 1992 , 167, 203-220	3	73
83	Responses of action potential and K ⁺ currents to temperature acclimation in fish hearts: phylogeny or thermal preferences?. <i>Physiological and Biochemical Zoology</i> , 2009 , 82, 468-82	2	65
82	Temperature acclimation modifies sinoatrial pacemaker mechanism of the rainbow trout heart. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2007 , 292, R1023-32 ^{3.2}	3.2	56
81	Temperature-dependent expression of sarcolemmal K(+) currents in rainbow trout atrial and ventricular myocytes. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2002 , 282, R1191-9	3.2	54
80	The temperature dependence of electrical excitability in fish hearts. <i>Journal of Experimental Biology</i> , 2016 , 219, 1941-52	3	51
79	Acute heat tolerance of cardiac excitation in the brown trout (<i>Salmo trutta fario</i>). <i>Journal of Experimental Biology</i> , 2014 , 217, 299-309	3	50
78	Regulation of cardiac contractility in a cold stenothermal fish, the burbot <i>Lota lota</i> L.. <i>Journal of Experimental Biology</i> , 2002 , 205, 1597-1606	3	49
77	Chapter 9 The Anoxia-Tolerant Crucian Carp (<i>Carassius Carassius</i> L.). <i>Fish Physiology</i> , 2009 , 27, 397-441	2	40
76	Temperature dependence of cardiac sarcoplasmic reticulum function in rainbow trout myocytes. <i>Journal of Experimental Biology</i> , 2002 , 205, 3631-3639	3	39
75	Effects of temperature on intracellular [Ca ²⁺] in trout atrial myocytes. <i>Journal of Experimental Biology</i> , 2002 , 205, 3641-3650	3	38
74	Seasonal adaptation of crucian carp (<i>Carassius carassius</i> L.) heart: glycogen stores and lactate dehydrogenase activity. <i>Canadian Journal of Zoology</i> , 1994 , 72, 433-442	1.5	37
73	Temperature acclimation modifies Na ⁺ current in fish cardiac myocytes. <i>Journal of Experimental Biology</i> , 2004 , 207, 2823-33	3	36

72	Sarcolemmal ion currents and sarcoplasmic reticulum Ca ²⁺ content in ventricular myocytes from the cold stenothermic fish, the burbot (<i>Lota lota</i>). <i>Journal of Experimental Biology</i> , 2006 , 209, 3091-100	3	34
71	Regulation of cardiac contractility in a cold stenothermal fish, the burbot <i>Lota lota</i> L. <i>Journal of Experimental Biology</i> , 2002 , 205, 1597-606	3	34
70	Expression of SERCA and phospholamban in rainbow trout (<i>Oncorhynchus mykiss</i>) heart: comparison of atrial and ventricular tissue and effects of thermal acclimation. <i>Journal of Experimental Biology</i> , 2012 , 215, 1162-9	3	31
69	Seasonal changes in glycogen content and Na ⁺ -K ⁺ -ATPase activity in the brain of crucian carp. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2006 , 291, R1482-9	3.2	31
68	Effects of temperature on intracellular Ca ²⁺ in trout atrial myocytes. <i>Journal of Experimental Biology</i> , 2002 , 205, 3641-50	3	30
67	Significance of Na ⁺ current in the excitability of atrial and ventricular myocardium of the fish heart. <i>Journal of Experimental Biology</i> , 2006 , 209, 549-57	3	28
66	Regulation of contractility of the fish (<i>Carassius carassius</i> L.) heart ventricle. <i>Comparative Biochemistry and Physiology Part C: Comparative Pharmacology</i> , 1989 , 94, 477-483		28
65	Deltamethrin is toxic to the fish (crucian carp, <i>Carassius carassius</i>) heart. <i>Pesticide Biochemistry and Physiology</i> , 2016 , 129, 36-42	4.9	27
64	A novel inwardly rectifying K ⁺ channel, Kir2.5, is upregulated under chronic cold stress in fish cardiac myocytes. <i>Journal of Experimental Biology</i> , 2008 , 211, 2162-71	3	27
63	The induction of an ATP-sensitive K(+) current in cardiac myocytes of air- and water-breathing vertebrates. <i>Pflügers Archiv European Journal of Physiology</i> , 2002 , 444, 760-70	4.6	26
62	Inward rectifier potassium current (I _{K1}) and Kir2 composition of the zebrafish (<i>Danio rerio</i>) heart. <i>Pflügers Archiv European Journal of Physiology</i> , 2015 , 467, 2437-46	4.6	25
61	Tetrodotoxin sensitivity of the vertebrate cardiac Na ⁺ current. <i>Marine Drugs</i> , 2011 , 9, 2409-22	6	25
60	Temperature dependence of cardiac sarcoplasmic reticulum function in rainbow trout myocytes. <i>Journal of Experimental Biology</i> , 2002 , 205, 3631-9	3	24
59	Seasonal acclimatization of the cardiac potassium currents (I _{K1} and I _{Kr}) in an arctic marine teleost, the navaga cod (<i>Eleginus navaga</i>). <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2015 , 185, 883-90	2.2	23
58	Comparison of sarcoplasmic reticulum calcium content in atrial and ventricular myocytes of three fish species. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2009 , 297, R1180-7	3.2	23
57	Effect of temperature and prolonged anoxia exposure on electrophysiological properties of the turtle (<i>Trachemys scripta</i>) heart. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2007 , 293, R421-37	3.2	22
56	Cloning and expression of cardiac Kir2.1 and Kir2.2 channels in thermally acclimated rainbow trout. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2007 , 292, R2328-39	3.2	21
55	Fiber types and myosin heavy chain composition in muscles of common shrew (<i>Sorex araneus</i>). <i>The Journal of Experimental Zoology</i> , 1995 , 271, 27-35		21

54	Reduced ventricular excitability causes atrioventricular block and depression of heart rate in fish at critically high temperatures. <i>Journal of Experimental Biology</i> , 2020 , 223,	3	21
53	Seasonal acclimatization of brain lipidome in a eurythermal fish (<i>Carassius carassius</i>) is mainly determined by temperature. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2008 , 294, R1716-28	3.2	20
52	Temperature and Ca ²⁺ dependence of [3H]ryanodine binding in the burbot (<i>Lota lota</i> L.) heart. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2006 , 290, R345-51	3.2	19
51	Regulation of action potential duration under acute heat stress by I(K,ATP) and I(K1) in fish cardiac myocytes. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2004 , 286, R405-15	3.2	19
50	Effects of acute anoxia on heart function in crucian carp: importance of cholinergic and purinergic control. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 1999 , 277, R465-75	3.2	19
49	Comparison of Smoltification in Atlantic Salmon (<i>Salmo salar</i>) from Anadromous and Landlocked Populations Under Common Garden Conditions. <i>Annales Zoologici Fennici</i> , 2013 , 50, 1-15	0.9	18
48	Temperature dependence of sarco(endo)plasmic reticulum Ca ²⁺ ATPase expression in fish hearts. <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2013 , 183, 467-76	2.2	17
47	Expression of calsequestrin in atrial and ventricular muscle of thermally acclimated rainbow trout. <i>Journal of Experimental Biology</i> , 2009 , 212, 3403-14	3	17
46	Sinoatrial tissue of crucian carp heart has only negative contractile responses to autonomic agonists. <i>BMC Physiology</i> , 2010 , 10, 10	0	17
45	Seasonal acclimatization of the cardiac action potential in the Arctic navaga cod (<i>Eleginus navaga</i> , Gadidae). <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2014 , 184, 319-27	2.2	16
44	Body mass dependence of glycogen stores in the anoxia-tolerant crucian carp (<i>Carassius carassius</i> L.). <i>Die Naturwissenschaften</i> , 2011 , 98, 225-32	2	16
43	Na/K-ATPase activity in the anoxic turtle (<i>Trachemys scripta</i>) brain at different acclimation temperature. <i>Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology</i> , 2017 , 206, 11-16	2.6	15
42	Electrical Excitability of the Fish Heart and Its Autonomic Regulation. <i>Fish Physiology</i> , 2017 , 36, 99-153	2	15
41	Expression of calcium channel transcripts in the zebrafish heart: dominance of T-type channels. <i>Journal of Experimental Biology</i> , 2018 , 221,	3	15
40	Comparison of Gene Expression in the Gill of Salmon (<i>Salmo salar</i>) Smolts from Anadromous and Landlocked Populations. <i>Annales Zoologici Fennici</i> , 2013 , 50, 16-35	0.9	15
39	Seasonality of dihydropyridine receptor binding in the heart of an anoxia-tolerant vertebrate, the crucian carp (<i>Carassius carassius</i> L.). <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2004 , 287, R1263-9	3.2	15
38	Inhibition of the cardiac ATP-dependent potassium current by KB-R7943. <i>Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology</i> , 2014 , 175, 38-45	2.6	14
37	Excitation-contraction coupling of the developing rat heart. <i>Molecular and Cellular Biochemistry</i> , 1996 , 163-164, 5-11	4.2	14

36	Feeling the heat: source-sink mismatch as a mechanism underlying the failure of thermal tolerance. <i>Journal of Experimental Biology</i> , 2020 , 223,	3	14
35	Maximum heart rate in brown trout (<i>Salmo trutta fario</i>) is not limited by firing rate of pacemaker cells. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2017 , 312, R163-R171 ¹³	3.2	13
34	Transcripts of Kv7.1 and MinK channels and slow delayed rectifier K current (I) are expressed in zebrafish (<i>Danio rerio</i>) heart. <i>Pflugers Archiv European Journal of Physiology</i> , 2018 , 470, 1753-1764	4.6	13
33	Polycyclic Aromatic Hydrocarbons Phenanthrene and Retene Modify the Action Potential via Multiple Ion Currents in Rainbow Trout <i>Oncorhynchus mykiss</i> Cardiac Myocytes. <i>Environmental Toxicology and Chemistry</i> , 2019 , 38, 2145-2153	3.8	13
32	Seasonal changes of cholinergic response in the atrium of Arctic navaga cod (<i>Eleginus navaga</i>). <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2017 , 187, 329-338	2.2	13
31	Electrical excitation of the heart in a basal vertebrate, the European river lamprey (<i>Lampetra fluviatilis</i>). <i>Physiological and Biochemical Zoology</i> , 2014 , 87, 817-28	2	13
30	Effects of thermal acclimation on the relaxation system of crucian carp white myotomal muscle. <i>The Journal of Experimental Zoology</i> , 1999 , 284, 241-251		13
29	Effects of prolonged anoxia on electrical activity of the heart in crucian carp (<i>Carassius carassius</i>). <i>Journal of Experimental Biology</i> , 2017 , 220, 445-454	3	12
28	A significant role of sarcoplasmic reticulum in cardiac contraction of a basal vertebrate, the river lamprey (<i>Lampetra fluviatilis</i>). <i>Acta Physiologica</i> , 2013 , 207, 269-79	5.6	12
27	Effects of seasonal acclimatization on action potentials and sarcolemmal K currents in roach (<i>Rutilus rutilus</i>) cardiac myocytes. <i>Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology</i> , 2017 , 205, 15-27	2.6	11
26	Cardiac voltage-gated sodium channel expression and electrophysiological characterization of the sodium current in the zebrafish (<i>Danio rerio</i>) ventricle. <i>Progress in Biophysics and Molecular Biology</i> , 2018 , 138, 59-68	4.7	11
25	Does different thyroid state effect on the contractility of the cardiac muscle of eurythermal fish species, rainbow trout (<i>Oncorhynchus mykiss</i> , Walbaum)?. <i>Journal of Thermal Biology</i> , 2003 , 28, 35-42	2.9	11
24	Species- and chamber-specific responses of 12 kDa FK506-binding protein to temperature in fish heart. <i>Fish Physiology and Biochemistry</i> , 2014 , 40, 539-49	2.7	10
23	Electrophysiological properties of rainbow trout cardiac myocytes in serum-free primary culture. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2002 , 282, R1200-9	3.2	10
22	Temperature and external K dependence of electrical excitation in ventricular myocytes of cod-like fishes. <i>Journal of Experimental Biology</i> , 2019 , 222,	3	9
21	Seasonality of glycogen phosphorylase activity in crucian carp (<i>Carassius carassius</i> L.). <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2011 , 181, 917-26	2.2	9
20	Thermal adaptation of the crucian carp (<i>Carassius carassius</i>) cardiac delayed rectifier current, I _{Ks} , by homomeric assembly of Kv7.1 subunits without MinK. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2011 , 301, R255-65	3.2	9
19	Effects of seasonal acclimatization on thermal tolerance of inward currents in roach (<i>Rutilus rutilus</i>) cardiac myocytes. <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2018 , 188, 255-269	2.2	8

18	Effects of deltamethrin on excitability and contractility of the rainbow trout (<i>Oncorhynchus mykiss</i>) heart. <i>Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology</i> , 2014 , 159, 1-9	3.2	8
17	Inhibition of the cardiac inward rectifier potassium currents by KB-R7943. <i>Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology</i> , 2013 , 158, 181-6	3.2	8
16	Small functional current in sinoatrial pacemaker cells of the brown trout () heart despite strong expression of HCN channel transcripts. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2017 , 313, R711-R722	3.2	8
15	Lowering Temperature is the Trigger for Glycogen Build-Up and Winter Fasting in Crucian Carp (<i>Carassius carassius</i>). <i>Zoological Science</i> , 2016 , 33, 83-91	0.8	8
14	Glycogen dynamics of crucian carp (<i>Carassius carassius</i>) in prolonged anoxia. <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2016 , 186, 999-1007	2.2	7
13	Electrical excitability of roach (<i>Rutilus rutilus</i>) ventricular myocytes: effects of extracellular K, temperature, and pacing frequency. <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2018 , 315, R303-R311	3.2	7
12	Molecular basis and drug sensitivity of the delayed rectifier (IKr) in the fish heart. <i>Comparative Biochemistry and Physiology Part - C: Toxicology and Pharmacology</i> , 2015 , 176-177, 44-51	3.2	6
11	Electrical excitability of the heart in a Chondrostei fish, the Siberian sturgeon (<i>Acipenser baerii</i>). <i>American Journal of Physiology - Regulatory Integrative and Comparative Physiology</i> , 2014 , 307, R1157-66	3.2	6
10	A new potassium ion current induced by stimulation of M2 cholinoreceptors in fish atrial myocytes. <i>Journal of Experimental Biology</i> , 2014 , 217, 1745-51	3	5
9	Ionic basis of atrioventricular conduction: ion channel expression and sarcolemmal ion currents of the atrioventricular canal of the rainbow trout (<i>Oncorhynchus mykiss</i>) heart. <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2021 , 191, 327-346	2.2	3
8	Transcript expression of inward rectifier potassium channels of Kir2 subfamily in Arctic marine and freshwater fish species. <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2019 , 189, 735-749	2.2	2
7	Depression of heart rate in fish at critically high temperatures is due to atrioventricular block		2
6	Effects of acute warming on cardiac and myotomal sarco(endo)plasmic reticulum ATPase (SERCA) of thermally acclimated brown trout (<i>Salmo trutta</i>). <i>Journal of Comparative Physiology B: Biochemical, Systemic, and Environmental Physiology</i> , 2021 , 191, 43-53	2.2	2
5	Effects of Na ⁺ channel isoforms and cellular environment on temperature tolerance of cardiac Na ⁺ current in zebrafish (<i>Danio rerio</i>) and rainbow trout (<i>Oncorhynchus mykiss</i>). <i>Journal of Experimental Biology</i> , 2021 , 224,	3	1
4	Ionic currents underlying different patterns of electrical activity in working cardiac myocytes of mammals and non-mammalian vertebrates.. <i>Comparative Biochemistry and Physiology Part A, Molecular & Integrative Physiology</i> , 2022 , 111204	2.6	1
3	Cardiac Toxicity of Cadmium Involves Complex Interactions Among Multiple Ion Currents in Rainbow Trout (<i>Oncorhynchus mykiss</i>) Ventricular Myocytes. <i>Environmental Toxicology and Chemistry</i> , 2021 , 40, 2874-2885	3.8	0
2	A mutation of ion-conducting pore without effect on ion selectivity of the sodium channel. <i>Acta Physiologica Scandinavica</i> , 2005 , 185, 257		
1	Temperature dependence of SERCA activity in thermally acclimated freshwater mussels <i>Anodonta anatina</i> and <i>Unio tumidus</i> (Bivalvia: Unionidae). <i>Aquaculture</i> , 2022 , 555, 738188	4.4	

