Andrew Trafford

List of Publications by Year
in descending order

127 papers	7,392 citations	47 h-index	83 g-index
131 all docs	131 docs citations	131 times ranked	6886 citing authors

#	Article	IF	Citations
1	Calcium and Excitation-Contraction Coupling in the Heart. Circulation Research, 2017, 121, 181-195.	4.5	526
2	Enhanced Sarcoplasmic Reticulum Ca ²⁺ Leak and Increased Na ⁺ -Ca ²⁺ Exchanger Function Underlie Delayed Afterdepolarizations in Patients With Chronic Atrial Fibrillation. Circulation, 2012, 125, 2059-2070.	1.6	523
3	How can we improve our understanding of cardiovascular safety liabilities to develop safer medicines?. British Journal of Pharmacology, 2011, 163, 675-693.	5.4	306
4	Integrative Analysis of Calcium Cycling in Cardiac Muscle. Circulation Research, 2000, 87, 1087-1094.	4.5	287
5	Aging and the cardiac collagen matrix: Novel mediators of fibrotic remodelling. Journal of Molecular and Cellular Cardiology, 2016, 93, 175-185.	1.9	209
6	The sarcoplasmic reticulum and arrhythmogenic calcium release. Cardiovascular Research, 2007, 77, 285-292.	3.8	196
7	The control of Ca release from the cardiac sarcoplasmic reticulum: regulation versus autoregulation. Cardiovascular Research, 1998, 38, 589-604.	3.8	188
8	Measurement of sarcoplasmic reticulum Ca2+content and sarcolemmal Ca2+fluxes in isolated rat ventricular myocytes during spontaneous Ca2+release. Journal of Physiology, 1997, 501, 3-16.	2.9	182
9	Increasing Ryanodine Receptor Open Probability Alone Does Not Produce Arrhythmogenic Calcium Waves. Circulation Research, 2007, 100, 105-111.	4.5	173
10	Modulation of CICR has no maintained effect on systolic Ca 2+ : simultaneous measurements of sarcoplasmic reticulum and sarcolemmal Ca 2+ fluxes in rat ventricular myocytes. Journal of Physiology, 2000, 522, 259-270.	2.9	156
11	Differences in intracellular calcium homeostasis between atrial and ventricular myocytes. Journal of Molecular and Cellular Cardiology, 2009, 46, 463-473.	1.9	149
12	Characterization of an Extensive Transverse Tubular Network in Sheep Atrial Myocytes and its Depletion in Heart Failure. Circulation: Heart Failure, 2009, 2, 482-489.	3.9	144
13	Transverse tubules are a common feature in large mammalian atrial myocytes including human. American Journal of Physiology - Heart and Circulatory Physiology, 2011, 301, H1996-H2005.	3.2	142
14	A novel, rapid and reversible method to measure Ca buffering and time-course of total sarcoplasmic reticulum Ca content in cardiac ventricular myocytes. Pflugers Archiv European Journal of Physiology, 1999, 437, 501.	2.8	123
15	Three-Dimensional Reconstruction of Cardiac Sarcoplasmic Reticulum Reveals a Continuous Network Linking Transverse-Tubules. Circulation Research, 2013, 113, 1219-1230.	4.5	117
16	Coordinated Control of Cell Ca ²⁺ Loading and Triggered Release From the Sarcoplasmic Reticulum Underlies the Rapid Inotropic Response to Increased L-Type Ca ²⁺ Current. Circulation Research, 2001, 88, 195-201.	4.5	116
17	Comparison of subsarcolemmal and bulk calcium concentration during spontaneous calcium release in rat ventricular myocytes.. Journal of Physiology, 1995, 488, 577-586.	2.9	112
18	Calcium in the Pathophysiology of Atrial Fibrillation and Heart Failure. Frontiers in Physiology, 2018, 9, 1380.	2.8	112

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19	Dependence of Cardiac Transverse Tubules on the BAR Domain Protein Amphiphysin II (BIN-1). Circulation Research, 2014, 115, 986-996.	4.5	109
20	Enhanced Ca ²⁺ Current and Decreased Ca ²⁺ Efflux Restore Sarcoplasmic Reticulum Ca ²⁺ Content After Depletion. Circulation Research, 1997, 81, 477-484.	4.5	99
21	Tissue section AFM: In situ ultrastructural imaging of native biomolecules. Matrix Biology, 2010, 29, 254-260.	3.6	98
22	Calcium flux balance in the heart. Journal of Molecular and Cellular Cardiology, 2013, 58, 110-117.	1.9	97
23	The Control of Diastolic Calcium in the Heart. Circulation Research, 2020, 126, 395-412.	4.5	94
24	Reducing Ryanodine Receptor Open Probability as a Means to Abolish Spontaneous Ca 2+ Release and Increase Ca 2+ Transient Amplitude in Adult Ventricular Myocytes. Circulation Research, 2006, 98, 1299-1305.	4.5	90
25	In the RyR2 ^{R4496C} Mouse Model of CPVT, Î²-Adrenergic Stimulation Induces Ca Waves by Increasing SR Ca Content and Not by Decreasing the Threshold for Ca Waves. Circulation Research, 2010, 107, 1483-1489.	4.5	90
26	The effects of low concentrations of caffeine on spontaneous Ca release in isolated rat ventricular myocytes. Cell Calcium, 2000, 28, 269-276.	2.4	89
27	Age-related divergent remodeling of the cardiac extracellular matrix in heart failure: Collagen accumulation in the young and loss in the aged. Journal of Molecular and Cellular Cardiology, 2012, 53, 82-90.	1.9	88
28	The control of sarcoplasmic reticulum Ca content in cardiac muscle. Cell Calcium, 2005, 38, 391-396.	2.4	86
29	Extracellular matrix profiles in the progression to heart failure. Acta Physiologica, 2008, 194, 3-21.	3.8	83
30	What role does modulation of the ryanodine receptor play in cardiac inotropy and arrhythmogenesis?. Journal of Molecular and Cellular Cardiology, 2009, 46, 474-481.	1.9	83
31	Diastolic Spontaneous Calcium Release From the Sarcoplasmic Reticulum Increases Beat-to-Beat Variability of Repolarization in Canine Ventricular Myocytes After Î²-Adrenergic Stimulation. Circulation Research, 2013, 112, 246-256.	4.5	82
32	Analysis of cellular calcium fluxes in cardiac muscle to understand calcium homeostasis in the heart. Cell Calcium, 2007, 42, 503-512.	2.4	80
33	Phosphodiesterase type-5 inhibitor use in type 2 diabetes is associated with a reduction in all-cause mortality. Heart, 2016, 102, 1750-1756.	2.9	74
34	The effect of acidosis on systolic Ca 2+ and sarcoplasmic reticulum calcium content in isolated rat ventricular myocytes. Journal of Physiology, 2000, 529, 661-668.	2.9	73
35	Nanoindentation of histological specimens: Mapping the elastic properties of soft tissues. Journal of Materials Research, 2009, 24, 638-646.	2.6	73
36	An Induced Pluripotent Stem Cell Model of Hypoplastic Left Heart Syndrome (HLHS) Reveals Multiple Expression and Functional Differences in HLHS-Derived Cardiac Myocytes. Stem Cells Translational Medicine, 2014, 3, 416-423.	3.3	72

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37	Reproducibility of CRISPR-Cas9 methods for generation of conditional mouse alleles: a multi-center evaluation. Genome Biology, 2019, 20, 171.	8.8	69
38	Regulation of systolic [Ca²⁺]_i and cellular Ca²⁺ flux balance in rat ventricular myocytes by SR Ca²⁺, Lâ€type Ca²⁺ current and diastolic [Ca²⁺]_i. Journal of Physiology, 2007, 585, 579-592.	2.9	68
39	Mechanisms underlying enhanced cardiac excitation contraction coupling observed in the senescent sheep myocardium. Journal of Molecular and Cellular Cardiology, 2004, 37, 1171-81.	1.9	67
40	Enhanced sarcolemmal Ca2+ efflux reduces sarcoplasmic reticulum Ca2+ content and systolic Ca2+ in cardiac hypertrophy. Cardiovascular Research, 2004, 62, 538-547.	3.8	64
41	Phosphodiesterase-5 inhibitors and the heart: compound cardioprotection?. Heart, 2018, 104, 1244-1250.	2.9	63
42	From the Ryanodine Receptor to Cardiac Arrhythmias. Circulation Journal, 2009, 73, 1561-1567.	1.6	57
43	Calcium signalling microdomains and the t-tubular system in atrial mycoytes: potential roles in cardiac disease and arrhythmias. Cardiovascular Research, 2013, 98, 192-203.	3.8	56
44	Propagating calcium waves initiated by local caffeine application in rat ventricular myocytes.. Journal of Physiology, 1995, 489, 319-326.	2.9	53
45	Na/Ca Exchange: Regulator of Intracellular Calcium and Source of Arrhythmias in the Heart. Annals of the New York Academy of Sciences, 2007, 1099, 315-325.	3.8	52
46	Stability and instability of regulation of intracellular calcium. Experimental Physiology, 2005, 90, 3-12.	2.0	51
47	A computational model of spatio-temporal cardiac intracellular calcium handling with realistic structure and spatial flux distribution from sarcoplasmic reticulum and t-tubule reconstructions. PLoS Computational Biology, 2017, 13, e1005714.	3.2	49
48	Stimulation of Ca-induced Ca release only transiently increases the systolic Ca transient: measurements of Ca fluxes and sarcoplasmic reticulum Ca. Cardiovascular Research, 1998, 37, 710-717.	3.8	48
49	Impaired Î²â€adrenergic responsiveness accentuates dysfunctional excitationâ€"contraction coupling in an ovine model of tachypacingâ€induced heart failure. Journal of Physiology, 2011, 589, 1367-1382.	2.9	47
50	Changes of SERCA activity have only modest effects on sarcoplasmic reticulum Ca²⁺ content in rat ventricular myocytes. Journal of Physiology, 2011, 589, 4723-4729.	2.9	47
51	Reduced SERCA2 abundance decreases the propensity for Ca2+ wave development in ventricular myocytes. Cardiovascular Research, 2010, 86, 63-71.	3.8	46
52	Factors affecting the propagation of locally activated systolic Ca transients in rat ventricular myocytes. Pflugers Archiv European Journal of Physiology, 1993, 425, 181-183.	2.8	45
53	The mechanism and significance of the slow changes of ventricular action potential duration following a change of heart rate. Experimental Physiology, 2009, 94, 520-528.	2.0	45
54	Localised micro-mechanical stiffening in the ageing aorta. Mechanisms of Ageing and Development, 2011, 132, 459-467.	4.6	45

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55	Three-Dimensional Structure of the Intercalated Disc Reveals Plicate Domain and Gap Junction Remodeling in Heart Failure. Biophysical Journal, 2015, 108, 498-507.	0.5	44
56	Ca-activated chloride current and Na-Ca exchange have different timecourses during sarcoplasmic reticulum Ca release in ferret ventricular myocytes. Pflugers Archiv European Journal of Physiology, 1998, 435, 743-745.	2.8	42
57	Perturbed atrial calcium handling in an ovine model of heart failure: Potential roles for reductions in the L-type calcium current. Journal of Molecular and Cellular Cardiology, 2015, 79, 169-179.	1.9	42
58	Spatial disruption and enhanced degradation of collagen with the transition from compensated ventricular hypertrophy to symptomatic congestive heart failure. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 292, H1364-H1372.	3.2	40
59	Concise Review: Cardiac Disease Modeling Using Induced Pluripotent Stem Cells. Stem Cells, 2015, 33, 2643-2651.	3.2	39
60	Sarcoplasmic Reticulum Ca-ATPase and Heart Failure 20 Years Later. Circulation Research, 2013, 113, 958-961.	4.5	38
61	A measurable reduction of s.r. Ca content follows spontaneous Ca release in rat ventricular myocytes. Pflugers Archiv European Journal of Physiology, 1997, 434, 852-854.	2.8	36
62	The Effects of Exogenous Calcium Buffers on the Systolic Calcium Transient in Rat Ventricular Myocytes. Biophysical Journal, 2001, 80, 1915-1925.	0.5	36
63	A functional role for transverse (t-) tubules in the atria. Journal of Molecular and Cellular Cardiology, 2013, 58, 84-91.	1.9	36
64	Use of medetomidine and butorphanol for sedation in dogs. Journal of Small Animal Practice, 1994, 35, 495-498.	1.2	34
65	Phosphodiesterase 5 inhibition improves contractile function and restores transverse tubule loss and catecholamine responsiveness in heart failure. Scientific Reports, 2019, 9, 6801.	3.3	34
66	The role of intracellular Ca buffers in determining the shape of the systolic Ca transient in cardiac ventricular myocytes. Pflugers Archiv European Journal of Physiology, 2001, 442, 96-100.	2.8	33
67	Physiological and pathological modulation of ryanodine receptor function in cardiac muscle. Cell Calcium, 2004, 35, 583-589.	2.4	33
68	Balanced changes in Ca buffering by SERCA and troponin contribute to Ca handling during Î²-adrenergic stimulation in cardiac myocytes. Cardiovascular Research, 2014, 104, 347-354.	3.8	33
69	Postnatal Enalapril to Improve Cardiovascular Function Following Preterm Preeclampsia (PICk-UP):. Hypertension, 2020, 76, 1828-1837.	2.7	33
70	Distinct circadian mechanisms govern cardiac rhythms and susceptibility to arrhythmia. Nature Communications, 2021, 12, 2472.	12.8	33
71	Integrative analysis of calcium signalling in cardiac muscle. Frontiers in Bioscience - Landmark, 2002, 7, d843.	3.0	32
72	2,3-Butanedione monoxime (BDM) decreases sarcoplasmic reticulum Ca content by stimulating Ca release in isolated rat ventricular myocytes. Pflugers Archiv European Journal of Physiology, 1998, 436, 776-781.	2.8	31

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73	Variability of Spontaneous Ca ²⁺ Release Between Different Rat Ventricular Myocytes Is Correlated With Na ⁺ -Ca ²⁺ Exchange and [Na ⁺] _i. Circulation Research, 1996, 78, 857-862.	4.5	30
74	Human junctophilin-2 undergoes a structural rearrangement upon binding PtdIns(3,4,5)<i>P</i>3 and the S101R mutation identified in hypertrophic cardiomyopathy obviates this response. Biochemical Journal, 2013, 456, 205-217.	3.7	26
75	Ca2+ wave probability is determined by the balance between SERCA2-dependent Ca2+ reuptake and threshold SR Ca2+ content. Cardiovascular Research, 2011, 90, 503-512.	3.8	25
76	Measurement of calcium entry and exit in quiescent rat ventricular myocytes. Pflugers Archiv European Journal of Physiology, 2000, 440, 600-608.	2.8	23
77	Direct measurements of SR free Ca reveal the mechanism underlying the transient effects of RyR potentiation under physiological conditions. Cardiovascular Research, 2014, 103, 554-563.	3.8	23
78	Heart Failure and the Ryanodine Receptor. Circulation Research, 2002, 91, 979-981.	4.5	21
79	A mechanism distinct from the L-type Ca current or Naâ€“Ca exchange contributes to Ca entry in rat ventricular myocytes. Cell Calcium, 2006, 39, 417-423.	2.4	20
80	Photoperiod-dependent modulation of cardiac excitation contraction coupling in the Siberian hamster. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2005, 288, R607-R614.	1.8	18
81	Life, Sudden Death, and Intracellular Calcium. Circulation Research, 2006, 99, 223-224.	4.5	17
82	Frequency-modulated atomic force microscopy localises viscoelastic remodelling in the ageing sheep aorta. Journal of the Mechanical Behavior of Biomedical Materials, 2016, 64, 10-17.	3.1	16
83	Sex-dependent effects of developmental hypoxia on cardiac mitochondria from adult murine offspring. Free Radical Biology and Medicine, 2021, 162, 490-499.	2.9	16
84	Cardiac Transverse Tubules in Physiology and Heart Failure. Annual Review of Physiology, 2022, 84, 229-255.	13.1	15
85	Increased Vulnerability to Atrial Fibrillation Is Associated With Increased Susceptibility to Alternans in Old Sheep. Journal of the American Heart Association, 2018, 7, e009972.	3.7	14
86	No Role for the Ryanodine Receptor in Regulating Cardiac Contraction?. Physiology, 2000, 15, 275-279.	3.1	13
87	No role for a voltage sensitive release mechanism in cardiac muscle. Journal of Molecular and Cellular Cardiology, 2003, 35, 145-151.	1.9	13
88	Increased Ca buffering underpins remodelling of Ca²⁺ handling in old sheep atrial myocytes. Journal of Physiology, 2017, 595, 6263-6279.	2.9	13
89	Non-ischemic Heart Preservation via Hypothermic Cardioplegic Perfusion Induces Immunodepletion of Donor Hearts Resulting in Diminished Graft Infiltration Following Transplantation. Frontiers in Immunology, 2020, 11, 1621.	4.8	11
90	Maternal melatonin: Effective intervention against developmental programming of cardiovascular dysfunction in adult offspring of complicated pregnancy. Journal of Pineal Research, 2022, 72, e12766.	7.4	11

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91	Illuminating Sarcoplasmic Reticulum Calcium. Circulation Research, 2003, 93, 4-5.	4.5	9
92	Peptide Location Fingerprinting Reveals Tissue Region-Specific Differences in Protein Structures in an Ageing Human Organ. International Journal of Molecular Sciences, 2021, 22, 10408.	4.1	9
93	Measurement of Sarcoplasmic Reticulum Ca Content and Sarcolemmal Fluxes during the Transient Stimulation of the Systolic Ca Transient Produced by Caffeine. Annals of the New York Academy of Sciences, 1998, 853, 368-371.	3.8	8
94	PDE5 Inhibition Suppresses Ventricular Arrhythmias by Reducing SR Ca ²⁺ Content. Circulation Research, 2021, 129, 650-665.	4.5	8
95	Keeping the beat: Life without SERCA â€" Is it possible?. Journal of Molecular and Cellular Cardiology, 2009, 47, 171-173.	1.9	7
96	Temporal Development of Autonomic Dysfunction in Heart Failure: Effects of Age in an Ovine Rapid-pacing Model. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2016, 71, 1544-1552.	3.6	7
97	Interaction of background Ca²⁺ influx, sarcoplasmic reticulum threshold and heart failure in determining propensity for Ca²⁺ waves in sheep heart. Journal of Physiology, 2022, 600, 2637-2650.	2.9	7
98	What is the purpose of the large sarcolemmal calcium flux on each heartbeat?. American Journal of Physiology - Heart and Circulatory Physiology, 2009, 297, H493-H494.	3.2	6
99	Electrophysiological and Proarrhythmic Effects of Hydroxychloroquine Challenge in Guinea-Pig Hearts. ACS Pharmacology and Translational Science, 2021, 4, 1639-1653.	4.9	6
100	Peptide location fingerprinting identifies species- and tissue-conserved structural remodelling of proteins as a consequence of ageing and disease. Matrix Biology, 2022, 114, 108-137.	3.6	6
101	Can changes of ryanodine receptor expression affect cardiac contractility?. Cardiovascular Research, 2000, 45, 1068-1069.	3.8	5
102	How does CaMKIIÎ´ phosphorylation of the cardiac ryanodine receptor contribute to inotropy?. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, E123; author reply E124.	7.1	5
103	Omega-3 fatty acids do not alter P-wave parameters in electrocardiogram or expression of atrial connexins in patients undergoing coronary artery bypass surgery. Europace, 2016, 18, 1521-1527.	1.7	5
104	Another trigger for the heartbeat. Journal of Physiology, 1998, 513, 1-1.	2.9	4
105	A model model: a commentary on DiFrancesco and Noble (1985) â€˜A model of cardiac electrical activity incorporating ionic pumps and concentration changesâ€™. Philosophical Transactions of the Royal Society B: Biological Sciences, 2015, 370, 20140316.	4.0	4
106	Chronic vagal nerve stimulation has no effect on tachycardiaâ€induced heart failure progression or excitationâ€“contraction coupling. Physiological Reports, 2020, 8, e14321.	1.7	4
107	Response to correspondence on â€œReproducibility of CRISPR-Cas9 methods for generation of conditional mouse alleles: a multi-center evaluationâ€• Genome Biology, 2021, 22, 99.	8.8	4
108	Excitation-Contraction Coupling in Cardiac Muscle. Advances in Muscle Research, 2002, , 49-89.	0.4	4

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109	The Ryanodine Receptor: Cause or Consequence of Diabetic Heart Failure?. Journal of Molecular and Cellular Cardiology, 2000, 32, 1377-1378.	1.9	3
110	Alkaline nucleoplasm facilitates contractile gene expression in the mammalian heart. Basic Research in Cardiology, 2022, 117, 17.	5.9	3
111	Location, location, location: new avenues to determine the function of the cardiac Na+â€“Ca2+ exchanger?. Journal of Molecular and Cellular Cardiology, 2003, 35, 1321-1324.	1.9	1
112	DYNAMICS OF CARDIAC INTRACELLULAR Ca2+ HANDLING â€" FROM EXPERIMENTS TO VIRTUAL CELLS. International Journal of Bifurcation and Chaos in Applied Sciences and Engineering, 2003, 13, 3535-3560.	1.7	1
113	Primum non nocere: When will ryanodine receptor leak find its role in heart failure?. Journal of Molecular and Cellular Cardiology, 2011, 50, 13-15.	1.9	1
114	The devil is in the details: Methodological reviewsâ€"A new JMCC initiative. Journal of Molecular and Cellular Cardiology, 2011, 50, 939.	1.9	1
115	Effects of phosphodiesterase-5 inhibition with sildenafil on calcium waves in cardiac myocytes. Lancet, The, 2017, 389, S50.	13.7	1
116	Letter by Hutchings et al Regarding Article, â€œPreimplant Phosphodiesterase-5 Inhibitor Use Is Associated With Higher Rates of Severe Early Right Heart Failure After Left Ventricular Assist Device Implantation : An INTERMACS Analysisâ€• Circulation: Heart Failure, 2019, 12, e006410.	3.9	1
117	Optimising Large Animal Models of Sustained Atrial Fibrillation: Relevance of the Critical Mass Hypothesis. Frontiers in Physiology, 2021, 12, 690897.	2.8	1
118	Vagal Nerve Stimulation for the Treatment of Heart Failure. , 2017, , 157-179.		1
119	Measurement of calcium entry and exit in quiescent rat ventricular myocytes. Pflugers Archiv European Journal of Physiology, 2000, 440, 600.	2.8	1
120	Oral abstract presentations. Cardiovascular Research, 2012, 93, S88-S91.	3.8	0
121	Investigating the Effects of a Cardiotoxic Drug on Calcium Homeostasis in the Heart. Biophysical Journal, 2013, 104, 604a.	0.5	0
122	MAPS; acute safety data of the St Jude accent - tendril IPG system during prolonged max power CMR scanning. Journal of Cardiovascular Magnetic Resonance, 2015, 17, .	3.3	0
123	Letter by Pearman etÂal.Âregarding article â€œEffect of botulinum toxin on inducibility and maintenance of atrial fibrillation in ovine myocardial tissueâ€• PACE - Pacing and Clinical Electrophysiology, 2017, 40, 1186-1186.	1.2	0
124	Ageâ€dependent alterations to the cardiac extracellular matrix in heart failure: differences between ventricular and atrial remodeling. FASEB Journal, 2012, 26, .	0.5	0
125	Both collagen and elastin matrices are remodeled in the failing ovine atria â€“ a role for elastinâ€degrading enzymes in atrial structural remodeling. FASEB Journal, 2013, 27, 1129.7.	0.5	0
126	Comparison of â€œNear Membraneâ€•and Bulk Cytoplasmic Calcium Concentration in Single Cardiac Ventricular Myocytes During Spontaneous Calcium Waves. , 1996, , 109-128.		0

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127	PO-614-03 ALTERED SUBCELLULAR CALCIUM RELEASE IN THE HEART FAILURE ATRIA. Heart Rhythm, 2022, 19, S104.	0.7	0