Catherine Shanahan

List of Publications by Year
in descending order

106 papers	19,474 citations	11608 70 h-index	27345 106 g-index
107 all docs	107 docs citations	107 times ranked	17453 citing authors

#	Article	IF	Citations
1	Nesprins: intracellular scaffolds that maintain cell architecture and coordinate cell function?. Expert Reviews in Molecular Medicine, 2005, 7, 1-15.	1.6	1,274
2	Coupling of the nucleus and cytoplasm: Role of the LINC complex. Journal of Cell Biology, 2006, 172, 41-53.	2.3	1,153
3	Human Vascular Smooth Muscle Cells Undergo Vesicle-Mediated Calcification in Response to Changes in Extracellular Calcium and Phosphate Concentrations: A Potential Mechanism for Accelerated Vascular Calcification in ESRD. Journal of the American Society of Nephrology: JASN, 2004, 15, 2857-2867.	3.0	830
4	Arterial Calcification in Chronic Kidney Disease: Key Roles for Calcium and Phosphate. Circulation Research, 2011, 109, 697-711.	2.0	766
5	Apoptosis Regulates Human Vascular Calcification In Vitro. Circulation Research, 2000, 87, 1055-1062.	2.0	648
6	Role of smooth muscle cells in vascular calcification: implications in atherosclerosis and arterial stiffness. Cardiovascular Research, 2018, 114, 590-600.	1.8	643
7	Medial Localization of Mineralization-Regulating Proteins in Association With MoÌˆnckebergâ€™s Sclerosis. Circulation, 1999, 100, 2168-2176.	1.6	595
8	Medial vascular calcification revisited: review and perspectives. European Heart Journal, 2014, 35, 1515-1525.	1.0	567
9	High expression of genes for calcification-regulating proteins in human atherosclerotic plaques.. Journal of Clinical Investigation, 1994, 93, 2393-2402.	3.9	564
10	Osteo/Chondrocytic Transcription Factors and Their Target Genes Exhibit Distinct Patterns of Expression in Human Arterial Calcification. Arteriosclerosis, Thrombosis, and Vascular Biology, 2003, 23, 489-494.	1.1	479
11	Macrophage-Derived Matrix Vesicles. Circulation Research, 2013, 113, 72-77.	2.0	471
12	Nesprin-1 and -2 are involved in the pathogenesis of Emeryâ€“Dreifuss muscular dystrophy and are critical for nuclear envelope integrity. Human Molecular Genetics, 2007, 16, 2816-2833.	1.4	461
13	SUN1 Interacts with Nuclear Lamin A and Cytoplasmic Nesprins To Provide a Physical Connection between the Nuclear Lamina and the Cytoskeleton. Molecular and Cellular Biology, 2006, 26, 3738-3751.	1.1	440
14	Dialysis Accelerates Medial Vascular Calcification in Part by Triggering Smooth Muscle Cell Apoptosis. Circulation, 2008, 118, 1748-1757.	1.6	438
15	The Interaction between Nesprins and Sun Proteins at the Nuclear Envelope Is Critical for Force Transmission between the Nucleus and Cytoskeleton. Journal of Biological Chemistry, 2011, 286, 26743-26753.	1.6	433
16	Vascular Smooth Muscle Cell Calcification Is Mediated by Regulated Exosome Secretion. Circulation Research, 2015, 116, 1312-1323.	2.0	419
17	Isolation of gene markers of differentiated and proliferating vascular smooth muscle cells.. Circulation Research, 1993, 73, 193-204.	2.0	347
18	Mechanistic Insights into Vascular Calcification in CKD. Journal of the American Society of Nephrology: JASN, 2013, 24, 179-189.	3.0	332

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19	Calcium Regulates Key Components of Vascular Smooth Muscle Cellâ€"Derived Matrix Vesicles to Enhance Mineralization. Circulation Research, 2011, 109, e1-12.	2.0	329
20	Multifunctional Roles for Serum Protein Fetuin-A in Inhibition of Human Vascular Smooth Muscle Cell Calcification. Journal of the American Society of Nephrology: JASN, 2005, 16, 2920-2930.	3.0	326
21	Prelamin A Acts to Accelerate Smooth Muscle Cell Senescence and Is a Novel Biomarker of Human Vascular Aging. Circulation, 2010, 121, 2200-2210.	1.6	311
22	Calcium Phosphate Crystals Induce Cell Death in Human Vascular Smooth Muscle Cells. Circulation Research, 2008, 103, e28-34.	2.0	280
23	Chronic Mineral Dysregulation Promotes Vascular Smooth Muscle Cell Adaptation and Extracellular Matrix Calcification. Journal of the American Society of Nephrology: JASN, 2010, 21, 103-112.	3.0	278
24	Calcification of Human Vascular Cells In Vitro Is Correlated With High Levels of Matrix Gla Protein and Low Levels of Osteopontin Expression. Arteriosclerosis, Thrombosis, and Vascular Biology, 1998, 18, 379-388.	1.1	242
25	Nesprin-2 is a multi-isomeric protein that binds lamin and emerin at the nuclear envelope and forms a subcellular network in skeletal muscle. Journal of Cell Science, 2005, 118, 673-687.	1.2	236
26	Mammalian SUN Protein Interaction Networks at the Inner Nuclear Membrane and Their Role in Laminopathy Disease Processes. Journal of Biological Chemistry, 2010, 285, 3487-3498.	1.6	234
27	Smooth Muscle Cell Heterogeneity. Arteriosclerosis, Thrombosis, and Vascular Biology, 1998, 18, 333-338.	1.1	227
28	Postâ€translational modifications regulate matrix Gla protein function: importance for inhibition of vascular smooth muscle cell calcification. Journal of Thrombosis and Haemostasis, 2007, 5, 2503-2511.	1.9	215
29	Vascular calcification and osteoporosisâ€"from clinical observation towards molecular understanding. Osteoporosis International, 2007, 18, 251-259.	1.3	204
30	Vascular smooth muscle cell phenotypic plasticity and the regulation of vascular calcification. Journal of Internal Medicine, 2006, 260, 192-210.	2.7	199
31	Prelamin A Accelerates Vascular Calcification Via Activation of the DNA Damage Response and Senescence-Associated Secretory Phenotype in Vascular Smooth Muscle Cells. Circulation Research, 2013, 112, e99-109.	2.0	194
32	VASCULAR CALCIFICATION IN PATIENTS WITH KIDNEY DISEASE: The Vascular Biology of Calcification. Seminars in Dialysis, 2007, 20, 103-109.	0.7	189
33	Biology of Calcification in Vascular Cells: Intima versus Media. Herz, 2001, 26, 245-251.	0.4	180
34	Linked Chromosome 16q13 Chemokines, Macrophage-Derived Chemokine, Fractalkine, and Thymus- and Activation-Regulated Chemokine, Are Expressed in Human Atherosclerotic Lesions. Arteriosclerosis, Thrombosis, and Vascular Biology, 2001, 21, 923-929.	1.1	161
35	The circulating calcification inhibitors, fetuin-A and osteoprotegerin, but not Matrix Gla protein, are associated with vascular stiffness and calcification in children on dialysis. Nephrology Dialysis Transplantation, 2008, 23, 3263-3271.	0.4	154
36	Medial Arterial Calcification. Arteriosclerosis, Thrombosis, and Vascular Biology, 2016, 36, 1475-1482.	1.1	154

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37	Mechanisms of vascular calcification in CKDâ€"evidence for premature ageing?. Nature Reviews Nephrology, 2013, 9, 661-670.	4.1	152
38	Acetylated Low-Density Lipoprotein Stimulates Human Vascular Smooth Muscle Cell Calcification by Promoting Osteoblastic Differentiation and Inhibiting Phagocytosis. Circulation, 2002, 106, 3044-3050.	1.6	147
39	Nesprins LINC the nucleus and cytoskeleton. Current Opinion in Cell Biology, 2011, 23, 47-54.	2.6	136
40	Role for alkaline phosphatase as an inducer of vascular calcification in renal failure?. Kidney International, 2008, 73, 989-991.	2.6	126
41	Extracellular matrix proteomics identifies molecular signature of symptomatic carotid plaques. Journal of Clinical Investigation, 2017, 127, 1546-1560.	3.9	122
42	Exploring the biology of vascular calcification in chronic kidney disease: What's circulating?. Kidney International, 2008, 73, 384-390.	2.6	120
43	Molecular cloning of cDNA encoding the 110 kDa and 21 kDa regulatory subunits of smooth muscle protein phosphatase 1M. FEBS Letters, 1994, 356, 51-55.	1.3	119
44	Emerging roles for vascular smooth muscle cell exosomes in calcification and coagulation. Journal of Physiology, 2016, 594, 2905-2914.	1.3	115
45	Inflammation Ushers in Calcification. Circulation, 2007, 116, 2782-2785.	1.6	114
46	The effect of particle agglomeration on the formation of a surface-connected compartment induced by hydroxyapatite nanoparticles inÂhuman monocyte-derived macrophages. Biomaterials, 2014, 35, 1074-1088.	5.7	114
47	Bone Morphogenetic Protein Receptor Type II Deficiency and Increased Inflammatory Cytokine Production. A Gateway to Pulmonary Arterial Hypertension. American Journal of Respiratory and Critical Care Medicine, 2015, 192, 859-872.	2.5	113
48	A Polymorphism of the Human Matrix Î³-Carboxyglutamic Acid Protein Promoter Alters Binding of an Activating Protein-1 Complex and Is Associated with Altered Transcription and Serum Levels. Journal of Biological Chemistry, 2001, 276, 32466-32473.	1.6	108
49	KrÃ¼ppel-like Factor 4 (KLF4/GKLF) Is a Target of Bone Morphogenetic Proteins and Transforming Growth Factor Î²1 in the Regulation of Vascular Smooth Muscle Cell Phenotype. Journal of Biological Chemistry, 2003, 278, 11661-11669.	1.6	108
50	Reactive Oxygen-Forming Nox5 Links Vascular Smooth Muscle Cell Phenotypic Switching and Extracellular Vesicle-Mediated Vascular Calcification. Circulation Research, 2020, 127, 911-927.	2.0	104
51	HDL in Children with CKD Promotes Endothelial Dysfunction and an Abnormal Vascular Phenotype. Journal of the American Society of Nephrology: JASN, 2014, 25, 2658-2668.	3.0	97
52	Induction, differentiation, and remodeling of blood vessels after transplantation of Bcl-2-transduced endothelial cells. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 425-430.	3.3	95
53	Mineral Surface in Calcified Plaque Is Like That of Bone. Arteriosclerosis, Thrombosis, and Vascular Biology, 2008, 28, 2030-2034.	1.1	95
54	Multiple Novel Nesprin-1 and Nesprin-2 Variants Act as Versatile Tissue-Specific Intracellular Scaffolds. PLoS ONE, 2012, 7, e40098.	1.1	93

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55	Vascular calcification and hypertension: Cause and effect. Annals of Medicine, 2012, 44, S85-S92.	1.5	91
56	Targeted redox inhibition of protein phosphatase 1 by Nox4 regulates <scp>eIF</scp>2Î±â€mediated stress signaling. EMBO Journal, 2016, 35, 319-334.	3.5	91
57	Novel nesprin-1 mutations associated with dilated cardiomyopathy cause nuclear envelope disruption and defects in myogenesis. Human Molecular Genetics, 2017, 26, 2258-2276.	1.4	91
58	Matrix Gla Protein Is Regulated by a Mechanism Functionally Related to the Calcium-Sensing Receptor. Biochemical and Biophysical Research Communications, 2000, 277, 736-740.	1.0	87
59	The nuclear lamina in health and disease. Nucleus, 2016, 7, 233-248.	0.6	87
60	Distinct functional domains in nesprin-1Î± and nesprin-2Î² bind directly to emerin and both interactions are disrupted in X-linked Emeryâ€“Dreifuss muscular dystrophy. Experimental Cell Research, 2007, 313, 2845-2857.	1.2	84
61	Cell Nuclei Spin in the Absence of Lamin B1. Journal of Biological Chemistry, 2007, 282, 20015-20026.	1.6	83
62	Identification of Osteoglycin as a Component of the Vascular Matrix. Arteriosclerosis, Thrombosis, and Vascular Biology, 1997, 17, 2437-2447.	1.1	82
63	Endogenous Calcification Inhibitors in the Prevention of Vascular Calcification: A Consensus Statement From the COST Action EuroSoftCalcNet. Frontiers in Cardiovascular Medicine, 2018, 5, 196.	1.1	82
64	Magnesium Counteracts Vascular Calcification. Arteriosclerosis, Thrombosis, and Vascular Biology, 2017, 37, 1431-1445.	1.1	81
65	Prothrombin Loading of Vascular Smooth Muscle Cellâ€“Derived Exosomes Regulates Coagulation and Calcification. Arteriosclerosis, Thrombosis, and Vascular Biology, 2017, 37, e22-e32.	1.1	80
66	NMR Spectroscopy of Native and in Vitro Tissues Implicates PolyADP Ribose in Biomineralization. Science, 2014, 344, 742-746.	6.0	78
67	Arterial â€œinflammagingâ€•drives vascular calcification in children on dialysis. Kidney International, 2019, 95, 958-972.	2.6	78
68	Extracellular Matrix Proteomics Reveals Interplay of Aggrecan and Aggrecanases in Vascular Remodeling of Stented Coronary Arteries. Circulation, 2018, 137, 166-183.	1.6	77
69	Aquaporin-1 Is Expressed by Vascular Smooth Muscle Cells and Mediates Rapid Water Transport across Vascular Cell Membranes. Journal of Vascular Research, 1999, 36, 353-362.	0.6	74
70	Calcium Regulation of Vascular Smooth Muscle Cellâ€“Derived Matrix Vesicles. Trends in Cardiovascular Medicine, 2012, 22, 133-137.	2.3	74
71	Nesprins: Tissue-Specific Expression of Epsilon and Other Short Isoforms. PLoS ONE, 2014, 9, e94380.	1.1	72
72	Adipocytic Differentiation and Liver X Receptor Pathways Regulate the Accumulation of Triacylglycerols in Human Vascular Smooth Muscle Cells. Journal of Biological Chemistry, 2005, 280, 3911-3919.	1.6	70

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73	Smooth muscle cell phenotypes in atherosclerotic lesions. Current Opinion in Lipidology, 1999, 10, 507-514.	1.2	60
74	Current insights into<i>LMNA</i>cardiomyopathies: Existing models and missing LINCs. Nucleus, 2017, 8, 17-33.	0.6	59
75	<scp>BMP</scp>â€9 regulates the osteoblastic differentiation and calcification of vascular smooth muscle cells through an <scp>ALK</scp>1 mediated pathway. Journal of Cellular and Molecular Medicine, 2015, 19, 165-174.	1.6	56
76	Endoplasmic Reticulum Stress Mediates Vascular Smooth Muscle Cell Calcification via Increased Release of Grp78 (Glucose-Regulated Protein, 78 kDa)-Loaded Extracellular Vesicles. Arteriosclerosis, Thrombosis, and Vascular Biology, 2021, 41, 898-914.	1.1	53
77	Differential Gene Expression in Vascular Smooth Muscle Cells in Primary Atherosclerosis and In Stent Stenosis in Humans. Arteriosclerosis, Thrombosis, and Vascular Biology, 2002, 22, 2030-2036.	1.1	51
78	Prelamin A impairs 53BP1 nuclear entry by mislocalizing NUP153 and disrupting the Ran gradient. Aging Cell, 2016, 15, 1039-1050.	3.0	48
79	Novel Nuclear Nesprin-2 Variants Tether Active Extracellular Signal-regulated MAPK1 and MAPK2 at Promyelocytic Leukemia Protein Nuclear Bodies and Act to Regulate Smooth Muscle Cell Proliferation. Journal of Biological Chemistry, 2010, 285, 1311-1320.	1.6	47
80	The aquaporins. A family of water channel proteins. International Journal of Biochemistry and Cell Biology, 1998, 30, 169-172.	1.2	44
81	Vascular calcification. Current Opinion in Nephrology and Hypertension, 2005, 14, 361-367.	1.0	42
82	Osteocalcin. Arteriosclerosis, Thrombosis, and Vascular Biology, 2011, 31, 2169-2171.	1.1	42
83	Approaches to the development of selective inhibitors of vascular smooth muscle cell proliferation. Cardiovascular Research, 1993, 27, 1191-1198.	1.8	40
84	Calcium and osteoprotegerin regulate IGF1R expression to inhibit vascular calcification. Cardiovascular Research, 2011, 91, 537-545.	1.8	40
85	Autophagy and matrix vesicles: new partners in vascular calcification. Kidney International, 2013, 83, 984-986.	2.6	38
86	Disruption of PCNA-lamins A/C interactions by prelamin A induces DNA replication fork stalling. Nucleus, 2016, 7, 498-511.	0.6	33
87	Neuropathy and the vascular-bone axis in diabetes: lessons from Charcot osteoarthropathy. Osteoporosis International, 2014, 25, 1197-1207.	1.3	31
88	Inhibition of TNF-<i>Î±</i>Reverses the Pathological Resorption Pit Profile of Osteoclasts from Patients with Acute Charcot Osteoarthropathy. Journal of Diabetes Research, 2015, 2015, 1-10.	1.0	30
89	Nesprin-1 and actin contribute to nuclear and cytoskeletal defects in lamin A/C-deficient cardiomyopathy. Journal of Molecular and Cellular Cardiology, 2011, 50, 479-486.	0.9	29
90	Runx2 (Runt-Related Transcription Factor 2) Links the DNA Damage Response to Osteogenic Reprogramming and Apoptosis of Vascular Smooth Muscle Cells. Arteriosclerosis, Thrombosis, and Vascular Biology, 2021, 41, 1339-1357.	1.1	27

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91	Human Vascular Smooth Muscle Cell Culture. Methods in Molecular Biology, 2012, 806, 251-263.	0.4	26
92	Mammalian microtubule P-body dynamics are mediated by nesprin-1. Journal of Cell Biology, 2014, 205, 457-475.	2.3	25
93	Technetium-99m and rhenium-188 complexes with one and two pendant bisphosphonate groups for imaging arterial calcification. Dalton Transactions, 2015, 44, 4963-4975.	1.6	25
94	SUN1/2 Are Essential for RhoA/ROCK-Regulated Actomyosin Activity in Isolated Vascular Smooth Muscle Cells. Cells, 2020, 9, 132.	1.8	22
95	Pressure and stiffness sensing together regulate vascular smooth muscle cell phenotype switching. Science Advances, 2022, 8, eabm3471.	4.7	19
96	Prelamin A Accumulation Attenuates Rac1 Activity and Increases the Intrinsic Migrational Persistence of Aged Vascular Smooth Muscle Cells. Cells, 2016, 5, 41.	1.8	15
97	ER stress regulates alkaline phosphatase gene expression in vascular smooth muscle cells via an ATF4-dependent mechanism. BMC Research Notes, 2018, 11, 483.	0.6	13
98	Novel Use of a Dektak 150 Surface Profiler Unmasks Differences in Resorption Pit Profiles Between Control and Charcot Patient Osteoclasts. Calcified Tissue International, 2014, 94, 403-411.	1.5	11
99	Muscle tensions merge to cause a DNA replication crisis. Journal of Cell Biology, 2018, 217, 1891-1893.	2.3	7
100	Introduction to the Compendium on Calcific Aortic Valve Disease. Circulation Research, 2013, 113, 176-178.	2.0	6
101	Diseases of the Aorta and Kidney Disease: conclusions from a Kidney Disease: Improving Global Outcomes (KDIGO) Controversies Conference. Cardiovascular Research, 2022, 118, 2582-2595.	1.8	6
102	Design considerations for engineering 3D models to study vascular pathologies in vitro. Acta Biomaterialia, 2021, 132, 114-128.	4.1	5
103	Use of cDNA Representational Difference Analysis to Identify Disease-Specific Genes in Human Atherosclerotic Plaques. , 1999, 30, 83-98.		3
104	Aspects of Nuclear Envelope Dynamics in Mitotic Cells. Novartis Foundation Symposium, 2008, , 22-34.	1.2	3
105	Targeting Cell Stiffness. Circulation Research, 2021, 128, 769-771.	2.0	2
106	Circulating uromodulin: a cytokine trap for osteoinductive inflammatory mediators in chronic kidney disease?. Cardiovascular Research, 2021, 117, 651-652.	1.8	2