Gary K Owens

List of Publications by Citations

120 papers	14,820 citations	65 h-index	121 g-index
125 ext. papers	16,890 ext. citations	10.7 avg, IF	6.79 L-index

#	Paper	IF	Citations
120	Molecular regulation of vascular smooth muscle cell differentiation in development and disease. *Physiological Reviews*, **2004**, 84, 767-801	47.9	2444
119	Vascular Smooth Muscle Cells in Atherosclerosis. *Circulation Research*, **2016**, 118, 692-702	15.7	972
118	Recent insights into the cellular biology of atherosclerosis. *Journal of Cell Biology*, **2015**, 209, 13-22	7.3	591
117	KLF4-dependent phenotypic modulation of smooth muscle cells has a key role in atherosclerotic plaque pathogenesis. *Nature Medicine*, **2015**, 21, 628-37	50.5	585
116	Smooth muscle cell phenotypic switching in atherosclerosis. *Cardiovascular Research*, **2012**, 95, 156-64	9.9	504
115	Epigenetic control of smooth muscle cell differentiation and phenotypic switching in vascular development and disease. *Annual Review of Physiology*, **2012**, 74, 13-40	23.1	477
114	Smooth muscle differentiation marker gene expression is regulated by RhoA-mediated actin polymerization. *Journal of Biological Chemistry*, **2001**, 276, 341-7	5.4	300
113	Myocardin is a key regulator of CArG-dependent transcription of multiple smooth muscle marker genes. *Circulation Research*, **2003**, 92, 856-64	15.7	296
112	Myocardin is a critical serum response factor cofactor in the transcriptional program regulating smooth muscle cell differentiation. *Molecular and Cellular Biology*, **2003**, 23, 2425-37	4.8	294
111	Kruppel-like factor 4 abrogates myocardin-induced activation of smooth muscle gene expression. *Journal of Biological Chemistry*, **2005**, 280, 9719-27	5.4	250
110	Molecular determinants of vascular smooth muscle cell diversity. *Circulation Research*, **2005**, 96, 280-91	15.7	238
109	A transforming growth factor beta (TGFbeta) control element drives TGFbeta-induced stimulation of smooth muscle alpha-actin gene expression in concert with two CArG elements. *Journal of Biological Chemistry*, **1997**, 272, 10948-56	5.4	234
108	Regulation of smooth muscle alpha-actin expression in vivo is dependent on CArG elements within the 5Rand first intron promoter regions. *Circulation Research*, **1999**, 84, 852-61	15.7	208
107	Smooth muscle phenotypic modulation is an early event in aortic aneurysms. *Journal of Thoracic and Cardiovascular Surgery*, **2009**, 138, 1392-9	1.5	202
106	Positive- and negative-acting Kruppel-like transcription factors bind a transforming growth factor beta control element required for expression of the smooth muscle cell differentiation marker SM22alpha in vivo. *Journal of Biological Chemistry*, **2000**, 275, 37798-806	5.4	201
105	Control of SRF binding to CArG box chromatin regulates smooth muscle gene expression in vivo. *Journal of Clinical Investigation*, **2006**, 116, 36-48	15.9	193
104	Multiple repressor pathways contribute to phenotypic switching of vascular smooth muscle cells. *American Journal of Physiology - Cell Physiology*, **2007**, 292, C59-69	5.4	190

103	Molecular mechanisms of decreased smooth muscle differentiation marker expression after vascular injury. *Journal of Clinical Investigation*, **2000**, 106, 1139-47	15.9	179
102	Conditional deletion of Krüppel-like factor 4 delays downregulation of smooth muscle cell differentiation markers but accelerates neointimal formation following vascular injury. *Circulation Research*, **2008**, 102, 1548-57	15.7	176
101	Oxidized phospholipids induce phenotypic switching of vascular smooth muscle cells in vivo and in vitro. *Circulation Research*, **2007**, 101, 792-801	15.7	171
100	Excitation-transcription coupling in arterial smooth muscle. *Circulation Research*, **2006**, 98, 868-78	15.7	168
99	Transforming growth factor-beta1 signaling contributes to development of smooth muscle cells from embryonic stem cells. *American Journal of Physiology - Cell Physiology*, **2004**, 287, C1560-8	5.4	167
98	Detection of histone modifications at specific gene loci in single cells in histological sections. *Nature Methods*, **2013**, 10, 171-7	21.6	166
97	Development of the aortic vessel wall as defined by vascular smooth muscle and extracellular matrix markers. *Developmental Biology*, **1996**, 178, 375-92	3.1	160
96	Combinatorial control of smooth muscle-specific gene expression. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2003**, 23, 737-47	9.4	146
95	Concise review: epigenetic mechanisms contribute to pluripotency and cell lineage determination of embryonic stem cells. *Stem Cells*, **2007**, 25, 2-9	5.8	143
94	Recruitment of serum response factor and hyperacetylation of histones at smooth muscle-specific regulatory regions during differentiation of a novel P19-derived in vitro smooth muscle differentiation system. *Circulation Research*, **2001**, 88, 1127-34	15.7	143
93	Genetic inactivation of IL-1 signaling enhances atherosclerotic plaque instability and reduces outward vessel remodeling in advanced atherosclerosis in mice. *Journal of Clinical Investigation*, **2012**, 122, 70-9	15.9	142
92	The smooth muscle alpha-actin gene promoter is differentially regulated in smooth muscle versus non-smooth muscle cells. *Journal of Biological Chemistry*, **1995**, 270, 7631-43	5.4	137
91	Selective expression of an endogenous inhibitor of FAK regulates proliferation and migration of vascular smooth muscle cells. *Molecular and Cellular Biology*, **2001**, 21, 1565-72	4.8	136
90	Programming smooth muscle plasticity with chromatin dynamics. *Circulation Research*, **2007**, 100, 1428-41	15.7	126
89	Smooth muscle-specific expression of the smooth muscle myosin heavy chain gene in transgenic mice requires 5′flanking and first intronic DNA sequence. *Circulation Research*, **1998**, 82, 908-17	15.7	125
88	CArG elements control smooth muscle subtype-specific expression of smooth muscle myosin in vivo. *Journal of Clinical Investigation*, **2001**, 107, 823-34	15.9	120
87	Smooth muscle cell plasticity: fact or fiction?. *Circulation Research*, **2013**, 112, 17-22	15.7	119
86	Molecular control of vascular smooth muscle cell differentiation and phenotypic plasticity. *Novartis Foundation Symposium*, **2007**, 283, 174-91; discussion 191-3, 238-41		117

85	Interleukin-1β has atheroprotective effects in advanced atherosclerotic lesions of mice. *Nature Medicine*, **2018**, 24, 1418-1429	50.5	115
84	Sp1-dependent activation of KLF4 is required for PDGF-BB-induced phenotypic modulation of smooth muscle. *American Journal of Physiology - Heart and Circulatory Physiology*, **2009**, 296, H1027-37	5.2	115
83	Genetic and pharmacologic disruption of interleukin-1β signaling inhibits experimental aortic aneurysm formation. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2013**, 33, 294-304	9.4	113
82	KLF4 is a key determinant in the development and progression of cerebral cavernous malformations. *EMBO Molecular Medicine*, **2016**, 8, 6-24	12	108
81	TNF-α induces phenotypic modulation in cerebral vascular smooth muscle cells: implications for cerebral aneurysm pathology. *Journal of Cerebral Blood Flow and Metabolism*, **2013**, 33, 1564-73	7.3	105
80	KLF4-dependent perivascular cell plasticity mediates pre-metastatic niche formation and metastasis. *Nature Medicine*, **2017**, 23, 1176-1190	50.5	105
79	Oxidized phospholipids induce type VIII collagen expression and vascular smooth muscle cell migration. *Circulation Research*, **2009**, 104, 609-18	15.7	100
78	Smooth muscle alpha-actin CArG elements coordinate formation of a smooth muscle cell-selective, serum response factor-containing activation complex. *Circulation Research*, **2000**, 86, 221-32	15.7	100
77	Activation of the pluripotency factor OCT4 in smooth muscle cells is atheroprotective. *Nature Medicine*, **2016**, 22, 657-65	50.5	100
76	Platelet-derived growth factor regulates actin isoform expression and growth state in cultured rat aortic smooth muscle cells. *Journal of Cellular Physiology*, **1990**, 142, 635-42	7	97
75	Cooperative binding of KLF4, pELK-1, and HDAC2 to a G/C repressor element in the SM22α promoter mediates transcriptional silencing during SMC phenotypic switching in vivo. *Circulation Research*, **2012**, 111, 685-96	15.7	95
74	PRISM/PRDM6, a transcriptional repressor that promotes the proliferative gene program in smooth muscle cells. *Molecular and Cellular Biology*, **2006**, 26, 2626-36	4.8	93
73	Expression of the smooth muscle myosin heavy chain gene is regulated by a negative-acting GC-rich element located between two positive-acting serum response factor-binding elements. *Journal of Biological Chemistry*, **1997**, 272, 6332-40	5.4	92
72	Platelet-derived growth factor-BB and Ets-1 transcription factor negatively regulate transcription of multiple smooth muscle cell differentiation marker genes. *American Journal of Physiology - Heart and Circulatory Physiology*, **2004**, 286, H2042-51	5.2	91
71	Vascular smooth muscle cells in cerebral aneurysm pathogenesis. *Translational Stroke Research*, **2014**, 5, 338-46	7.8	90
70	Platelet-derived growth factor-BB represses smooth muscle cell marker genes via changes in binding of MKL factors and histone deacetylases to their promoters. *American Journal of Physiology - Cell Physiology*, **2007**, 292, C886-95	5.4	90
69	A transforming growth factor-beta control element required for SM alpha-actin expression in vivo also partially mediates GKLF-dependent transcriptional repression. *Journal of Biological Chemistry*, **2003**, 278, 48004-11	5.4	89
68	Loss of CDKN2B promotes p53-dependent smooth muscle cell apoptosis and aneurysm formation. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2013**, 33, e1-e10	9.4	86

67	Forced expression of myocardin is not sufficient for induction of smooth muscle differentiation in multipotential embryonic cells. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2004**, 24, 1596-601	9.4	84
66	Inhibition of interleukin-1 decreases aneurysm formation and progression in a novel model of thoracic aortic aneurysms. *Circulation*, **2014**, 130, S51-9	16.7	83
65	5R CArG degeneracy in smooth muscle alpha-actin is required for injury-induced gene suppression in vivo. *Journal of Clinical Investigation*, **2005**, 115, 418-27	15.9	81
64	Angiotensin II-induced stimulation of smooth muscle alpha-actin expression by serum response factor and the homeodomain transcription factor MHox. *Circulation Research*, **1997**, 81, 600-10	15.7	80
63	Interleukin-1 modulates smooth muscle cell phenotype to a distinct inflammatory state relative to PDGF-DD via NF-B-dependent mechanisms. *Physiological Genomics*, **2012**, 44, 417-29	3.6	78
62	Regulation of alpha-smooth muscle actin expression in granulation tissue myofibroblasts is dependent on the intronic CArG element and the transforming growth factor-beta1 control element. *American Journal of Pathology*, **2005**, 166, 1343-51	5.8	78
61	Sphingosine-1-phosphate receptor subtypes differentially regulate smooth muscle cell phenotype. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2008**, 28, 1454-61	9.4	77
60	Development of a smooth muscle-targeted cre recombinase mouse reveals novel insights regarding smooth muscle myosin heavy chain promoter regulation. *Circulation Research*, **2000**, 87, 363-9	15.7	75
59	Smooth muscle cells and myofibroblasts use distinct transcriptional mechanisms for smooth muscle alpha-actin expression. *Circulation Research*, **2007**, 101, 883-92	15.7	70
58	Smooth muscle alpha-actin gene requires two E-boxes for proper expression in vivo and is a target of class I basic helix-loop-helix proteins. *Circulation Research*, **2003**, 92, 840-7	15.7	66
57	Epigenetic Control of Smooth Muscle Cell Identity and Lineage Memory. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2015**, 35, 2508-16	9.4	65
56	Stem Cell Pluripotency Genes Klf4 and Oct4 Regulate Complex SMC Phenotypic Changes Critical in Late-Stage Atherosclerotic Lesion Pathogenesis. *Circulation*, **2020**, 142, 2045-2059	16.7	65
55	Origin of neointimal smooth muscle: we've come full circle. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2006**, 26, 2579-81	9.4	64
54	Coronary Artery Disease Associated Transcription Factor TCF21 Regulates Smooth Muscle Precursor Cells That Contribute to the Fibrous Cap. *PLoS Genetics*, **2015**, 11, e1005155	6	61
53	PDGF-DD, a novel mediator of smooth muscle cell phenotypic modulation, is upregulated in endothelial cells exposed to atherosclerosis-prone flow patterns. *American Journal of Physiology - Heart and Circulatory Physiology*, **2009**, 296, H442-52	5.2	59
52	Platelet-derived growth factor-induced destabilization of smooth muscle alpha-actin mRNA. *Journal of Cellular Physiology*, **1990**, 145, 391-7	7	59
51	Assessment of contractility of purified smooth muscle cells derived from embryonic stem cells. *Stem Cells*, **2006**, 24, 1678-88	5.8	56
50	A retinoic acid-induced clonal cell line derived from multipotential P19 embryonal carcinoma cells expresses smooth muscle characteristics. *Circulation Research*, **1995**, 76, 742-9	15.7	49

49	Stem cells and their derivatives can bypass the requirement of myocardin for smooth muscle gene expression. *Developmental Biology*, **2005**, 288, 502-13	3.1	47
48	Interaction of CArG elements and a GC-rich repressor element in transcriptional regulation of the smooth muscle myosin heavy chain gene in vascular smooth muscle cells. *Journal of Biological Chemistry*, **1997**, 272, 29842-51	5.4	45
47	Substitution of the degenerate smooth muscle (SM) alpha-actin CC(A/T-rich)6GG elements with c-fos serum response elements results in increased basal expression but relaxed SM cell specificity and reduced angiotensin II inducibility. *Journal of Biological Chemistry*, **1998**, 273, 8398-406	5.4	45
46	The CANTOS Trial: One Important Step for Clinical Cardiology but a Giant Leap for Vascular Biology. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2017**, 37, e174-e177	9.4	44
45	PIAS1 activates the expression of smooth muscle cell differentiation marker genes by interacting with serum response factor and class I basic helix-loop-helix proteins. *Molecular and Cellular Biology* , **2005**, 25, 8009-23	4.8	44
44	Origin of Matrix-Producing Cells That Contribute to Aortic Fibrosis in Hypertension. *Hypertension*, **2016**, 67, 461-8	8.5	43
43	Pitx2 is functionally important in the early stages of vascular smooth muscle cell differentiation. *Journal of Cell Biology*, **2008**, 181, 461-73	7.3	42
42	PIAS1 mediates TGFbeta-induced SM alpha-actin gene expression through inhibition of KLF4 function-expression by protein sumoylation. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2009** , 29, 99-106	9.4	41
41	The smooth muscle myosin heavy chain gene exhibits smooth muscle subtype-selective modular regulation in vivo. *Journal of Biological Chemistry*, **2001**, 276, 39076-87	5.4	40
40	Cigarette smoke modulates vascular smooth muscle phenotype: implications for carotid and cerebrovascular disease. *PLoS ONE*, **2013**, 8, e71954	3.7	38
39	Clonally expanding smooth muscle cells promote atherosclerosis by escaping efferocytosis and activating the complement cascade. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 15818-15826	11.5	36
38	Lost in transdifferentiation. *Journal of Clinical Investigation*, **2004**, 113, 1249-51	15.9	36
37	Myocardin is differentially required for the development of smooth muscle cells and cardiomyocytes. *American Journal of Physiology - Heart and Circulatory Physiology*, **2011**, 300, H1707-21	5.2	31
36	The actin associated protein palladin is important for the early smooth muscle cell differentiation. *PLoS ONE*, **2010**, 5, e12823	3.7	28
35	Two MCAT elements of the SM alpha-actin promoter function differentially in SM vs. non-SM cells. *American Journal of Physiology - Cell Physiology*, **1998**, 275, C608-18	5.4	27
34	Differential activation of the SMalphaA promoter in smooth vs. skeletal muscle cells by bHLH factors. *American Journal of Physiology - Cell Physiology*, **1999**, 276, C1420-31	5.4	25
33	Early plus delayed hirudin reduces restenosis in the atherosclerotic rabbit more than early administration alone: potential implications for dosing of antithrombin agents. *Circulation*, **1998**, 98, 2301-6	16.7	24
32	Smooth muscle cell-specific deletion of unexpectedly leads to impaired development of advanced atherosclerotic lesions. *American Journal of Physiology - Heart and Circulatory Physiology*, **2017**, 312, H943-H958	5.2	23

31	The actin-associated protein Palladin is required for development of normal contractile properties of smooth muscle cells derived from embryoid bodies. *Journal of Biological Chemistry*, **2009**, 284, 2121-30	5.4	23
30	ANG II type 2 receptor regulates smooth muscle growth and force generation in late fetal mouse development. *American Journal of Physiology - Heart and Circulatory Physiology*, **2005**, 288, H96-102	5.2	22
29	"Attack of the Clones": Commonalities Between Cancer and Atherosclerosis. *Circulation Research*, **2017**, 120, 624-626	15.7	21
28	Multiple cell types contribute to the atherosclerotic lesion fibrous cap by PDGFR and bioenergetic mechanisms. *Nature Metabolism*, **2021**, 3, 166-181	14.6	19
27	5-Lipoxygenase pathway in experimental abdominal aortic aneurysms. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2014**, 34, 2669-78	9.4	18
26	WD repeat-containing protein 5, a ubiquitously expressed histone methyltransferase adaptor protein, regulates smooth muscle cell-selective gene activation through interaction with pituitary homeobox 2. *Journal of Biological Chemistry*, **2011**, 286, 21853-64	5.4	18
25	Perivascular cell-specific knockout of the stem cell pluripotency gene Oct4 inhibits angiogenesis. *Nature Communications*, **2019**, 10, 967	17.4	18
24	Sex-Stratified Gene Regulatory Networks Reveal Female Key Driver Genes of Atherosclerosis Involved in Smooth Muscle Cell Phenotype Switching. *Circulation*, **2021**, 143, 713-726	16.7	18
23	Pericyte Bridges in Homeostasis and Hyperglycemia. *Diabetes*, **2020**, 69, 1503-1517	0.9	14
22	Determinants of angiotensin II-induced hypertrophy versus hyperplasia in vascular smooth muscle. *Drug Development Research*, **1993**, 29, 83-87	5.1	14
21	Irradiation abolishes smooth muscle investment into vascular lesions in specific vascular beds. *JCI Insight*, **2018**, 3,	9.9	12
20	Genetic Regulation of Atherosclerosis-Relevant Phenotypes in Human Vascular Smooth Muscle Cells. *Circulation Research*, **2020**, 127, 1552-1565	15.7	12
19	Klf4 has an unexpected protective role in perivascular cells within the microvasculature. *American Journal of Physiology - Heart and Circulatory Physiology*, **2018**, 315, H402-H414	5.2	11
18	Shifting the Focus of Preclinical, Murine Atherosclerosis Studies From Prevention to Late-Stage Intervention. *Circulation Research*, **2017**, 120, 775-777	15.7	10
17	Derivation of contractile smooth muscle cells from embryonic stem cells. *Methods in Molecular Biology*, **2009**, 482, 345-67	1.4	8
16	Myh11+ microvascular mural cells and derived mesenchymal stem cells promote retinal fibrosis. *Scientific Reports*, **2020**, 10, 15808	4.9	7
15	Enhanced single-cell RNA-seq workflow reveals coronary artery disease cellular cross-talk and candidate drug targets. *Atherosclerosis*, **2021**, 340, 12-22	3.1	6
14	H3K4 di-methylation governs smooth muscle lineage identity and promotes vascular homeostasis by restraining plasticity. *Developmental Cell*, **2021**, 56, 2765-2782.e10	10.2	5

13	Human thrombin receptor-activating peptide-induced proliferation of cultured vascular smooth muscle cells exhibits species specificity. *Drug Development Research*, **1995**, 35, 7-12	5.1	4
12	KLF4 (Kruppel-Like Factor 4)-Dependent Perivascular Plasticity Contributes to Adipose Tissue inflammation. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2021**, 41, 284-301	9.4	4
11	Response to letter regarding article, "Inhibition of interleukin-1 decreases aneurysm formation and progression in a novel model of thoracic aortic aneurysm". *Circulation*, **2015**, 131, e400	16.7	1
10	Transcriptomic-based clustering of advanced atherosclerotic plaques identifies subgroups of plaques with differential underlying biology that associate with clinical presentation		1
9	Pericyte Bridges in Homeostasis and Hyperglycemia: Reconsidering Pericyte Dropout and Microvascular Structures		1
8	SREBP1 regulates Lgals3 activation in response to cholesterol loading. *Molecular Therapy - Nucleic Acids*, **2022**, 28, 892-909	10.7	1
7	SMC-Derived Hyaluronan Modulates Vascular SMC Phenotype in Murine Atherosclerosis. *Circulation Research*, **2021**, 129, 992-1005	15.7	0
6	Developmental Vascular Biology Workshop II Abstracts February 15, 2006, Asilomar Conference Grounds, Pacific Grove, California. *Microcirculation*, **2006**, 13, 131-172	2.9	
5	Paracrine Effect of Bone Marrow Cells on Hypoxia-Mediated Vascular Growth. *FASEB Journal*, **2006**, 20, A716	0.9	
4	Sp1 is required for expression of KLF4 in phenotypically modulated smooth muscle cells. *FASEB Journal*, **2007**, 21, A68	0.9	
3	POVPC induces the smooth muscle cells inflammatory phenotype. *FASEB Journal*, **2007**, 21, A517	0.9	
2	The Requirement of CC-Chemokine Receptor-2 (CCR2) Expression by Bone Marrow-Derived Cells (BMCs) for Arteriogenesis is Stimulus Dependent. *FASEB Journal*, **2008**, 22, 1147.14	0.9	
1	Diminished PDGF-B expression in bone-marrow derived cells leads to increased hypoxia-induced angiogenesis in a novel chimeric mouse model. *FASEB Journal*, **2008**, 22, 67-67	0.9	