

Naren R Vyavahare

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69
papers

2,840
citations

32
h-index

52
g-index

74
ext. papers

3,079
ext. citations

8.1
avg, IF

4.98
L-index

#	Paper	IF	Citations
69	Novel porous aortic elastin and collagen scaffolds for tissue engineering. <i>Biomaterials</i> , 2004 , 25, 5227-37	15.6	196
68	Identification and characterization of calcifying valve cells from human and canine aortic valves. <i>Journal of Heart Valve Disease</i> , 1999 , 8, 254-60		184
67	Prevention of bioprosthetic heart valve calcification by ethanol preincubation. Efficacy and mechanisms. <i>Circulation</i> , 1997 , 95, 479-88	16.7	182
66	Elastin-derived peptides and TGF-beta1 induce osteogenic responses in smooth muscle cells. <i>Biochemical and Biophysical Research Communications</i> , 2005 , 334, 524-32	3.4	131
65	Mechanisms of bioprosthetic heart valve failure: fatigue causes collagen denaturation and glycosaminoglycan loss. <i>Journal of Biomedical Materials Research Part B</i> , 1999 , 46, 44-50		110
64	Stability and function of glycosaminoglycans in porcine bioprosthetic heart valves. <i>Biomaterials</i> , 2006 , 27, 1507-18	15.6	99
63	Biocompatibility and remodeling potential of pure arterial elastin and collagen scaffolds. <i>Biomaterials</i> , 2006 , 27, 702-13	15.6	88
62	Synthesis and characterization of biodegradable elastomeric polyurethane scaffolds fabricated by the inkjet technique. <i>Biomaterials</i> , 2008 , 29, 3781-91	15.6	87
61	Elastin stabilization in cardiovascular implants: improved resistance to enzymatic degradation by treatment with tannic acid. <i>Biomaterials</i> , 2004 , 25, 3293-302	15.6	85
60	Elastin calcification and its prevention with aluminum chloride pretreatment. <i>American Journal of Pathology</i> , 1999 , 155, 973-82	5.8	83
59	The effect of hyaluronic acid incorporation on fibroblast spreading and proliferation within PEG-diacrylate based semi-interpenetrating networks. <i>Biomaterials</i> , 2007 , 28, 4928-38	15.6	77
58	Tannic acid treatment enhances biostability and reduces calcification of glutaraldehyde fixed aortic wall. <i>Biomaterials</i> , 2005 , 26, 1237-45	15.6	75
57	Effects of collagen fiber orientation on the response of biologically derived soft tissue biomaterials to cyclic loading. <i>Journal of Biomedical Materials Research - Part A</i> , 2007 , 80, 194-205	5.4	73
56	Structural requirements for stabilization of vascular elastin by polyphenolic tannins. <i>Biomaterials</i> , 2006 , 27, 3645-51	15.6	72
55	Role of elastin in pathologic calcification of xenograft heart valves. <i>Journal of Biomedical Materials Research Part B</i> , 2003 , 66, 93-102		70
54	Inhibition of matrix metalloproteinase activity attenuates tenascin-C production and calcification of implanted purified elastin in rats. <i>American Journal of Pathology</i> , 2000 , 157, 885-93	5.8	69
53	A novel crosslinking method for improved tear resistance and biocompatibility of tissue based biomaterials. <i>Biomaterials</i> , 2015 , 66, 83-91	15.6	63

52	In vivo cellular repopulation of tubular elastin scaffolds mediated by basic fibroblast growth factor. <i>Biomaterials</i> , 2007 , 28, 2830-8	15.6	63
51	Localized adenovirus gene delivery using antiviral IgG complexation. <i>Gene Therapy</i> , 2001 , 8, 659-67	4	59
50	Prevention of abdominal aortic aneurysm progression by targeted inhibition of matrix metalloproteinase activity with batimastat-loaded nanoparticles. <i>Circulation Research</i> , 2015 , 117, e80-9	15.7	58
49	Response of heterograft heart valve biomaterials to moderate cyclic loading. <i>Journal of Biomedical Materials Research Part B</i> , 2004 , 69, 658-69		58
48	On the biomechanical role of glycosaminoglycans in the aortic heart valve leaflet. <i>Acta Biomaterialia</i> , 2013 , 9, 4653-60	10.8	53
47	Inhibition of aortic wall calcification in bioprosthetic heart valves by ethanol pretreatment: biochemical and biophysical mechanisms. <i>Journal of Biomedical Materials Research Part B</i> , 1998 , 42, 30-7		48
46	Aluminum chloride pretreatment of elastin inhibits elastolysis by matrix metalloproteinases and leads to inhibition of elastin-oriented calcification. <i>American Journal of Pathology</i> , 2001 , 159, 1981-6	5.8	43
45	The effect of glycosaminoglycan stabilization on tissue buckling in bioprosthetic heart valves. <i>Biomaterials</i> , 2008 , 29, 1645-53	15.6	38
44	Toward cell therapy for vascular calcification: osteoclast-mediated demineralization of calcified elastin. <i>Cardiovascular Pathology</i> , 2007 , 16, 29-37	3.8	38
43	Hydroxyapatite and calcified elastin induce osteoblast-like differentiation in rat aortic smooth muscle cells. <i>Experimental Cell Research</i> , 2014 , 323, 198-208	4.2	36
42	Fixation of Bovine Pericardium-Based Tissue Biomaterial with Irreversible Chemistry Improves Biochemical and Biomechanical Properties. <i>Journal of Cardiovascular Translational Research</i> , 2017 , 10, 194-205	3.3	35
41	Nanoparticle targeting to diseased vasculature for imaging and therapy. <i>Nanomedicine: Nanotechnology, Biology, and Medicine</i> , 2014 , 10, 1003-12	6	35
40	High-glucose levels and elastin degradation products accelerate osteogenesis in vascular smooth muscle cells. <i>Diabetes and Vascular Disease Research</i> , 2013 , 10, 410-9	3.3	35
39	Bisphosphonate derivatized polyurethanes resist calcification. <i>Biomaterials</i> , 2001 , 22, 2683-93	15.6	33
38	Periodate-mediated glycosaminoglycan stabilization in bioprosthetic heart valves. <i>Journal of Biomedical Materials Research Part B</i> , 2001 , 56, 478-86		32
37	Neomycin prevents enzyme-mediated glycosaminoglycan degradation in bioprosthetic heart valves. <i>Biomaterials</i> , 2007 , 28, 2861-8	15.6	28
36	Novel capillary channel fiber scaffolds for guided tissue engineering. <i>Acta Biomaterialia</i> , 2005 , 1, 607-14	10.8	28
35	Porcine vena cava as an alternative to bovine pericardium in bioprosthetic percutaneous heart valves. <i>Biomaterials</i> , 2012 , 33, 1-8	15.6	26

34	Neomycin and pentagalloyl glucose enhanced cross-linking for elastin and glycosaminoglycans preservation in bioprosthetic heart valves. <i>Journal of Biomaterials Applications</i> , 2014 , 28, 757-66	2.9	26
33	Systemic Delivery of Nanoparticles Loaded with Pentagalloyl Glucose Protects Elastic Lamina and Prevents Abdominal Aortic Aneurysm in Rats. <i>Journal of Cardiovascular Translational Research</i> , 2016 , 9, 445-455	3.3	24
32	Elasto-regenerative properties of polyphenols. <i>Biochemical and Biophysical Research Communications</i> , 2014 , 444, 205-11	3.4	24
31	Efficacy of reversal of aortic calcification by chelating agents. <i>Calcified Tissue International</i> , 2013 , 93, 426-35	3.9	23
30	Neomycin and carbodiimide crosslinking as an alternative to glutaraldehyde for enhanced durability of bioprosthetic heart valves. <i>Journal of Biomaterials Applications</i> , 2013 , 27, 948-60	2.9	23
29	Rat aortic smooth muscle cells cultured on hydroxyapatite differentiate into osteoblast-like cells via BMP-2-SMAD-5 pathway. <i>Calcified Tissue International</i> , 2015 , 96, 359-69	3.9	21
28	Targeted chelation therapy with EDTA-loaded albumin nanoparticles regresses arterial calcification without causing systemic side effects. <i>Journal of Controlled Release</i> , 2014 , 196, 79-86	11.7	20
27	Nanoparticle-based targeted delivery of pentagalloyl glucose reverses elastase-induced abdominal aortic aneurysm and restores aorta to the healthy state in mice. <i>PLoS ONE</i> , 2020 , 15, e0227165	3.7	17
26	Site-specific chelation therapy with EDTA-loaded albumin nanoparticles reverses arterial calcification in a rat model of chronic kidney disease. <i>Scientific Reports</i> , 2019 , 9, 2629	4.9	16
25	Neomycin binding preserves extracellular matrix in bioprosthetic heart valves during in vitro cyclic fatigue and storage. <i>Acta Biomaterialia</i> , 2009 , 5, 983-92	10.8	15
24	Pentagalloyl glucose increases elastin deposition, decreases reactive oxygen species and matrix metalloproteinase activity in pulmonary fibroblasts under inflammatory conditions. <i>Biochemical and Biophysical Research Communications</i> , 2018 , 499, 24-29	3.4	14
23	Gold nanoparticles that target degraded elastin improve imaging and rupture prediction in an AngII mediated mouse model of abdominal aortic aneurysm. <i>Theranostics</i> , 2019 , 9, 4156-4167	12.1	14
22	Neomycin enhances extracellular matrix stability of glutaraldehyde crosslinked bioprosthetic heart valves. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2011 , 99, 217-29	3.5	14
21	Neomycin fixation followed by ethanol pretreatment leads to reduced buckling and inhibition of calcification in bioprosthetic valves. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2010 , 92, 168-77	3.5	12
20	Matrix systems for zero-order release: facile erosion of crosslinked hydrogels. <i>Polymer</i> , 1992 , 33, 593-599	9.9	12
19	In vivo vascular tissue engineering: influence of cytokine and implant location on tissue specific cellular recruitment. <i>Journal of Tissue Engineering and Regenerative Medicine</i> , 2009 , 3, 280-9	4.4	10
18	Targeted drug delivery to emphysematous lungs: Inhibition of MMPs by doxycycline loaded nanoparticles. <i>Pulmonary Pharmacology and Therapeutics</i> , 2016 , 39, 64-73	3.5	9
17	Zero-order release from glassy hydrogels. I. Enigma of the swelling interface number. <i>Journal of Membrane Science</i> , 1990 , 49, 207-222	9.6	8

16	Zero order release from glassy hydrogels. II. Matrix effects. <i>Journal of Membrane Science</i> , 1990 , 54, 205-220	2.0	8
15	Polyphenol treatments increase elastin and collagen deposition by human dermal fibroblasts; Implications to improve skin health. <i>Journal of Dermatological Science</i> , 2021 , 102, 94-100	4.3	8
14	Synergism of calcium-ethanehydroxybisphosphonate (CaEHBP) and FeC13: controlled release polymers for preventing calcification of bioprosthetic aortic wall. <i>Journal of Controlled Release</i> , 1995 , 34, 97-108	11.7	7
13	Zero order release from swollen hydrogels. <i>Journal of Membrane Science</i> , 1990 , 54, 221-228	9.6	7
12	Targeted Gold Nanoparticles as an Indicator of Mechanical Damage in an Elastase Model of Aortic Aneurysm. <i>Annals of Biomedical Engineering</i> , 2020 , 48, 2268-2278	4.7	6
11	Systemic delivery of targeted nanotherapeutic reverses angiotensin II-induced abdominal aortic aneurysms in mice. <i>Scientific Reports</i> , 2021 , 11, 8584	4.9	4
10	Pathological Calcification of Biomaterials 2020 , 973-994		3
9	Advancing peptide siRNA-carrier designs through L/D-amino acid stereochemical modifications to enhance gene silencing. <i>Molecular Therapy - Nucleic Acids</i> , 2021 , 24, 462-476	10.7	2
8	The Association Between Curvature and Rupture in a Murine Model of Abdominal Aortic Aneurysm and Dissection. <i>Experimental Mechanics</i> , 2021 , 61, 203-216	2.6	2
7	The Role of Elastin Degradation in Vascular Calcification: Possibilities to Repair Elastin and Reverse Calcification. <i>Contemporary Cardiology</i> , 2020 , 441-480	0.1	1
6	Bioprosthetic Heart Valves: From a Biomaterials Perspective 2018 , 337-382		0
5	Targeted delivery of pentagalloyl glucose inhibits matrix metalloproteinase activity and preserves elastin in emphysematous lungs. <i>Respiratory Research</i> , 2021 , 22, 249	7.3	0
4	Reversal of elastase-induced abdominal aortic aneurysm following the delivery of nanoparticle-based pentagalloyl glucose (PGG) is associated with reduced inflammatory and immune markers. <i>European Journal of Pharmacology</i> , 2021 , 910, 174487	5.3	0
3	Biomaterial Calcification: Mechanisms and Prevention 2012 , 359-392		
2	Endothelial cells seeded on elastin/heparin matrices express normal EC markers and resist detachment on exposure to shear stress: a histological study. <i>Journal of Histotechnology</i> , 2011 , 34, 11-19 ¹⁻³		
1	Pharmacologic Strategies for Preserving Elastic Matrix 2016 , 189-226		