David J Mooney

List of Publications by Year
in descending order

384 papers	81,949 citations	587 125 h-index	428 275 g-index
395 all docs	395 docs citations	395 times ranked	59438 citing authors

#	Article	IF	Citations
1	Alginate: Properties and biomedical applications. Progress in Polymer Science, 2012, 37, 106-126.	11.8	5,658
2	Hydrogels for Tissue Engineering. Chemical Reviews, 2001, 101, 1869-1880.	23.0	4,623
3	Hydrogels for tissue engineering: scaffold design variables and applications. Biomaterials, 2003, 24, 4337-4351.	5.7	4,376
4	Highly stretchable and tough hydrogels. Nature, 2012, 489, 133-136.	13.7	4,089
5	Designing hydrogels for controlled drug delivery. Nature Reviews Materials, 2016, 1, .	23.3	2,817
6	Alginate hydrogels as synthetic extracellular matrix materials. Biomaterials, 1999, 20, 45-53.	5.7	2,025
7	Hydrogels with tunable stress relaxation regulate stem cell fate and activity. Nature Materials, 2016, 15, 326-334.	13.3	1,650
8	Polymeric system for dual growth factor delivery. Nature Biotechnology, 2001, 19, 1029-1034.	9.4	1,642
9	Alginate Hydrogels as Biomaterials. Macromolecular Bioscience, 2006, 6, 623-633.	2.1	1,500
10	Harnessing traction-mediated manipulation of the cell/matrix interface to control stem-cell fate. Nature Materials, 2010, 9, 518-526.	13.3	1,319
11	Growth factor delivery-based tissue engineering: general approaches and a review of recent developments. Journal of the Royal Society Interface, 2011, 8, 153-170.	1.5	1,150
12	Tough adhesives for diverse wet surfaces. Science, 2017, 357, 378-381.	6.0	1,068
13	Effects of extracellular matrix viscoelasticity on cellular behaviour. Nature, 2020, 584, 535-546.	13.7	1,045
14	Mechanical forces direct stem cell behaviour in development and regeneration. Nature Reviews Molecular Cell Biology, 2017, 18, 728-742.	16.1	1,042
15	Novel approach to fabricate porous sponges of poly(d,l-lactic-co-glycolic acid) without the use of organic solvents. Biomaterials, 1996, 17, 1417-1422.	5.7	1,008
16	Development of biocompatible synthetic extracellular matrices for tissue engineering. Trends in Biotechnology, 1998, 16, 224-230.	4.9	850
17	Engineering tumors with 3D scaffolds. Nature Methods, 2007, 4, 855-860.	9.0	779
18	Inspiration and application in the evolution of biomaterials. Nature, 2009, 462, 426-432.	13.7	717

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19	Open pore biodegradable matrices formed with gas foaming. , 1998, 42, 396-402.		700
20	Extracellular matrix stiffness and composition jointly regulate the induction of malignant phenotypes in mammary epithelium. Nature Materials, 2014, 13, 970-978.	13.3	689
21	DNA delivery from polymer matrices for tissue engineering. Nature Biotechnology, 1999, 17, 551-554.	9.4	651
22	Regenerative medicine: Current therapies and future directions. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14452-14459.	3.3	651
23	Substrate stress relaxation regulates cell spreading. Nature Communications, 2015, 6, 6364.	5.8	637
24	Active scaffolds for on-demand drug and cell delivery. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 67-72.	3.3	630
25	Vascular Endothelial Growth Factor (VEGF)-Mediated Angiogenesis Is Associated with Enhanced Endothelial Cell Survival and Induction of Bcl-2 Expression. American Journal of Pathology, 1999, 154, 375-384.	1.9	591
26	Degradation of Partially Oxidized Alginate and Its Potential Application for Tissue Engineering. Biotechnology Progress, 2001, 17, 945-950.	1.3	573
27	Controlling alginate gel degradation utilizing partial oxidation and bimodal molecular weight distribution. Biomaterials, 2005, 26, 2455-2465.	5.7	565
28	Bioabsorbable polymer scaffolds for tissue engineering capable of sustained growth factor delivery. Journal of Controlled Release, 2000, 64, 91-102.	4.8	482
29	The tensile properties of alginate hydrogels. Biomaterials, 2004, 25, 3187-3199.	5.7	469
30	Controlled growth factor release from synthetic extracellular matrices. Nature, 2000, 408, 998-1000.	13.7	454
31	An alginate-based hybrid system for growth factor delivery in the functional repair of large bone defects. Biomaterials, 2011, 32, 65-74.	5.7	454
32	Switching from differentiation to growth in hepatocytes: Control by extracellular matrix. Journal of Cellular Physiology, 1992, 151, 497-505.	2.0	449
33	Injectable, spontaneously assembling, inorganic scaffolds modulate immune cells in vivo and increase vaccine efficacy. Nature Biotechnology, 2015, 33, 64-72.	9.4	436
34	Cyclic mechanical strain regulates the development of engineered smooth muscle tissue. Nature Biotechnology, 1999, 17, 979-983.	9.4	427
35	Transcriptional profiling of stroma from inflamed and resting lymph nodes defines immunological hallmarks. Nature Immunology, 2012, 13, 499-510.	7.0	416
36	Controlling Mechanical and Swelling Properties of Alginate Hydrogels Independently by Cross-Linker Type and Cross-Linking Density. Macromolecules, 2000, 33, 4291-4294.	2.2	412

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37	Injectable preformed scaffolds with shape-memory properties. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 19590-19595.	3.3	411
38	Matrix elasticity of void-forming hydrogels controls transplanted-stem-cell-mediated boneÂformation. Nature Materials, 2015, 14, 1269-1277.	13.3	390
39	Sustained release of vascular endothelial growth factor from mineralized poly(lactide-co-glycolide) scaffolds for tissue engineering. Biomaterials, 2000, 21, 2521-2527.	5.7	388
40	Infection-mimicking materials to program dendritic cells in situ. Nature Materials, 2009, 8, 151-158.	13.3	386
41	Dual growth factor delivery and controlled scaffold degradation enhance in vivo bone formation by transplanted bone marrow stromal cells. Bone, 2004, 35, 562-569.	1.4	376
42	Functional muscle regeneration with combined delivery of angiogenesis and myogenesis factors. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3287-3292.	3.3	374
43	Ultrasound-triggered disruption and self-healing of reversibly cross-linked hydrogels for drug delivery and enhanced chemotherapy. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 9762-9767.	3.3	372
44	Controlled Growth Factor Delivery for Tissue Engineering. Advanced Materials, 2009, 21, 3269-3285.	11.1	365
45	Spatioâ€“temporal VEGF and PDGF Delivery Patterns Blood Vessel Formation and Maturation. Pharmaceutical Research, 2007, 24, 258-264.	1.7	363
46	Cell volume change through water efflux impacts cell stiffness and stem cell fate. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E8618-E8627.	3.3	362
47	Engineering growing tissues. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 12025-12030.	3.3	360
48	Stabilized polyglycolic acid fibre-based tubes for tissue engineering. Biomaterials, 1996, 17, 115-124.	5.7	357
49	Alginate type and RGD density control myoblast phenotype. Journal of Biomedical Materials Research Part B, 2002, 60, 217-223.	3.0	355
50	Biomaterial-assisted targeted modulation of immune cells in cancer treatment. Nature Materials, 2018, 17, 761-772.	13.3	352
51	Mechanical confinement regulates cartilage matrix formation by chondrocytes. Nature Materials, 2017, 16, 1243-1251.	13.3	348
52	Biomaterials based strategies for skeletal muscle tissue engineering: Existing technologies and future trends. Biomaterials, 2015, 53, 502-521.	5.7	347
53	Biomaterials and emerging anticancer therapeutics: engineering the microenvironment. Nature Reviews Cancer, 2016, 16, 56-66.	12.8	341
54	Bioinspired mechanically active adhesive dressings to accelerate wound closure. Science Advances, 2019, 5, eaaw3963.	4.7	337

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55	Angiogenic effects of sequential release of VEGF-A165 and PDGF-BB with alginate hydrogels after myocardial infarction. Cardiovascular Research, 2007, 75, 178-185.	1.8	329
56	Growing New Organs. Scientific American, 1999, 280, 60-65.	1.0	320
57	Designing alginate hydrogels to maintain viability of immobilized cells. Biomaterials, 2003, 24, 4023-4029.	5.7	318
58	Cell Delivery Mechanisms for Tissue Repair. Cell Stem Cell, 2008, 2, 205-213.	5.2	316
59	A facile approach to enhance antigen response for personalized cancer vaccination. Nature Materials, 2018, 17, 528-534.	13.3	313
60	Injectable cryogel-based whole-cell cancer vaccines. Nature Communications, 2015, 6, 7556.	5.8	312
61	Porous carriers for biomedical applications based on alginate hydrogels. Biomaterials, 2000, 21, 1921-1927.	5.7	308
62	Polymeric Tissue Adhesives. Chemical Reviews, 2021, 121, 11336-11384.	23.0	306
63	Regulating Bone Formation <i>via</i> Controlled Scaffold Degradation. Journal of Dental Research, 2003, 82, 903-908.	2.5	304
64	Controlling Rigidity and Degradation of Alginate Hydrogels via Molecular Weight Distribution. Biomacromolecules, 2004, 5, 1720-1727.	2.6	304
65	In vivo time-gated fluorescence imaging with biodegradable luminescent porous silicon nanoparticles. Nature Communications, 2013, 4, 2326.	5.8	303
66	Spatiotemporal control of vascular endothelial growth factor delivery from injectable hydrogels enhances angiogenesis. Journal of Thrombosis and Haemostasis, 2007, 5, 590-598.	1.9	292
67	Stress-relaxation behavior in gels with ionic and covalent crosslinks. Journal of Applied Physics, 2010, 107, 63509.	1.1	287
68	Deterministic encapsulation of single cells in thin tunable microgels for niche modelling and therapeutic delivery. Nature Materials, 2017, 16, 236-243.	13.3	286
69	Performance and biocompatibility of extremely tough alginate/polyacrylamide hydrogels. Biomaterials, 2013, 34, 8042-8048.	5.7	282
70	Cancer cell angiogenic capability is regulated by 3D culture and integrin engagement. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 399-404.	3.3	280
71	Soft robotic sleeve supports heart function. Science Translational Medicine, 2017, 9, .	5.8	280
72	Cyclic strain enhances matrix mineralization by adult human mesenchymal stem cells via the extracellular signal-regulated kinase (ERK1/2) signaling pathway. Journal of Biomechanics, 2003, 36, 1087-1096.	0.9	274

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73	Microfluidic Generation of Monodisperse, Structurally Homogeneous Alginate Microgels for Cell Encapsulation and 3D Cell Culture. Advanced Healthcare Materials, 2015, 4, 1628-1633.	3.9	272
74	Scaffolds that mimic antigen-presenting cells enable ex vivo expansion of primary T cells. Nature Biotechnology, 2018, 36, 160-169.	9.4	271
75	Injectable, porous, and cell-responsive gelatin cryogels. Biomaterials, 2014, 35, 2477-2487.	5.7	266
76	Growth of continuous bonelike mineral within porous poly(lactide-co-glycolide) scaffoldsin vitro. , 2000, 50, 50-58.		263
77	An Integrated Microrobotic Platform for Onâ€Demand, Targeted Therapeutic Interventions. Advanced Materials, 2014, 26, 952-957.	11.1	259
78	Injection molding of chondrocyte/alginate constructs in the shape of facial implants. Journal of Biomedical Materials Research Part B, 2001, 55, 503-511.	3.0	256
79	Macroscale delivery systems for molecular and cellular payloads. Nature Materials, 2013, 12, 1004-1017.	13.3	251
80	Versatile click alginate hydrogels crosslinked via tetrazineâ€“norbornene chemistry. Biomaterials, 2015, 50, 30-37.	5.7	238
81	Optimizing seeding and culture methods to engineer smooth muscle tissue on biodegradable polymer matrices. , 1998, 57, 46-54.		233
82	The CLEC-2â€“podoplanin axis controls the contractility of fibroblastic reticular cells and lymph node microarchitecture. Nature Immunology, 2015, 16, 75-84.	7.0	233
83	Influence of the stiffness of three-dimensional alginate/collagen-I interpenetrating networks on fibroblast biology. Biomaterials, 2014, 35, 8927-8936.	5.7	226
84	Biomaterials that promote cell-cell interactions enhance the paracrine function of MSCs. Biomaterials, 2017, 140, 103-114.	5.7	220
85	Rigidity of Two-Component Hydrogels Prepared from Alginate and Poly(ethylene glycol)â^'Diamines. Macromolecules, 1999, 32, 5561-5566.	2.2	218
86	Long-term engraftment of hepatocytes transplanted on biodegradable polymer sponges. , 1997, 37, 413-420.		217
87	Engineered Bone Development from a Pre-Osteoblast Cell Line on Three-Dimensional Scaffolds. Tissue Engineering, 2000, 6, 605-617.	4.9	214
88	Tissue engineering using synthetic extracellular matrices. Nature Medicine, 1996, 2, 824-826.	15.2	212
89	Synthesis of cross-linked poly(aldehyde guluronate) hydrogels. Polymer, 1999, 40, 3575-3584.	1.8	212
90	In Situ Regulation of DC Subsets and T Cells Mediates Tumor Regression in Mice. Science Translational Medicine, 2009, 1, 8ra19.	5.8	211

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91	Biomaterial delivery of morphogens to mimic the natural healing cascade in bone. Advanced Drug Delivery Reviews, 2012, 64, 1257-1276.	6.6	210
92	A Bioinspired Soft Actuated Material. Advanced Materials, 2014, 26, 1200-1206.	11.1	210
93	Engineering vascular networks in porous polymer matrices. Journal of Biomedical Materials Research Part B, 2002, 60, 668-678.	3.0	207
94	Photoactivation of Endogenous Latent Transforming Growth Factorâ€"Î²1 Directs Dental Stem Cell Differentiation for Regeneration. Science Translational Medicine, 2014, 6, 238ra69.	5.8	206
95	Obstacles and opportunities in a forward vision for cancer nanomedicine. Nature Materials, 2021, 20, 1469-1479.	13.3	206
96	Effects of substrate stiffness and cell-cell contact on mesenchymal stem cell differentiation. Biomaterials, 2016, 98, 184-191.	5.7	205
97	Biomaterials Functionalized with MSC Secreted Extracellular Vesicles and Soluble Factors for Tissue Regeneration. Advanced Functional Materials, 2020, 30, 1909125.	7.8	204
98	Material-based deployment enhances efficacy of endothelial progenitor cells. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 14347-14352.	3.3	199
99	Engineering smooth muscle tissue with a predefined structure. , 1998, 41, 322-332.		196
100	Regulating Myoblast Phenotype Through Controlled Gel Stiffness and Degradation. Tissue Engineering, 2007, 13, 1431-1442.	4.9	195
101	Degradation Behavior of Covalently Cross-Linked Poly(aldehyde guluronate) Hydrogels. Macromolecules, 2000, 33, 97-101.	2.2	194
102	Cartilage Engineered in Predetermined Shapes Employing Cell Transplantation on Synthetic Biodegradable Polymers. Plastic and Reconstructive Surgery, 1994, 94, 233-237.	0.7	192
103	3D Printed Microtransporters: Compound Micromachines for Spatiotemporally Controlled Delivery of Therapeutic Agents. Advanced Materials, 2015, 27, 6644-6650.	11.1	192
104	Independent Control of Rigidity and Toughness of Polymeric Hydrogels. Macromolecules, 2003, 36, 4582-4588.	2.2	191
105	Engineered Smooth Muscle Tissues: Regulating Cell Phenotype with the Scaffold. Experimental Cell Research, 1999, 251, 318-328.	1.2	187
106	Biodegradable sponges for hepatocyte transplantation. Journal of Biomedical Materials Research Part B, 1995, 29, 959-965.	3.0	181
107	Advanced bandages for diabetic wound healing. Science Translational Medicine, 2021, 13, .	5.8	181
108	Liposomal Delivery Enhances Immune Activation by STING Agonists for Cancer Immunotherapy. Advanced Biology, 2017, 1, 1600013.	3.0	175

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109	Macroscale biomaterials strategies for local immunomodulation. Nature Reviews Materials, 2019, 4, 379-397.	23.3	172
110	Release from alginate enhances the biological activity of vascular endothelial growth factor. Journal of Biomaterials Science, Polymer Edition, 1998, 9, 1267-1278.	1.9	170
111	Substance P Promotes Wound Healing in Diabetes by Modulating Inflammation and Macrophage Phenotype. American Journal of Pathology, 2015, 185, 1638-1648.	1.9	170
112	Craniofacial Tissue Engineering. Critical Reviews in Oral Biology and Medicine, 2001, 12, 64-75.	4.4	166
113	Protein-based signaling systems in tissue engineering. Current Opinion in Biotechnology, 2003, 14, 559-565.	3.3	166
114	Enhancing microvascular formation and vessel maturation through temporal control over multiple pro-angiogenic and pro-maturation factors. Biomaterials, 2013, 34, 9201-9209.	5.7	165
115	Nanoscale Adhesion Ligand Organization Regulates Osteoblast Proliferation and Differentiation. Nano Letters, 2004, 4, 1501-1506.	4.5	164
116	Design and Fabrication of Biodegradable Polymer Devices to Engineer Tubular Tissues. Cell Transplantation, 1994, 3, 203-210.	1.2	162
117	Comparison of vascular endothelial growth factor and basic fibroblast growth factor on angiogenesis in SCID mice. Journal of Controlled Release, 2003, 87, 49-56.	4.8	161
118	Degradable and injectable poly(aldehyde guluronate) hydrogels for bone tissue engineering. Journal of Biomedical Materials Research Part B, 2001, 56, 228-233.	3.0	157
119	Decoupling the dependence of rheological/mechanical properties of hydrogels from solids concentration. Polymer, 2002, 43, 6239-6246.	1.8	157
120	Scaffolds for Engineering Smooth Muscle Under Cyclic Mechanical Strain Conditions. Journal of Biomechanical Engineering, 2000, 122, 210-215.	0.6	153
121	Controlled degradation of hydrogels using multi-functional cross-linking molecules. Biomaterials, 2004, 25, 2461-2466.	5.7	153
122	Hydrogels for combination delivery of antineoplastic agents. Biomaterials, 2001, 22, 2625-2633.	5.7	150
123	Biomaterials for skeletal muscle tissue engineering. Current Opinion in Biotechnology, 2017, 47, 16-22.	3.3	150
124	Viscoelastic surface electrode arrays to interface with viscoelastic tissues. Nature Nanotechnology, 2021, 16, 1019-1029.	15.6	144
125	Biologic-free mechanically induced muscle regeneration. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1534-1539.	3.3	142
126	Comparison of biomaterial delivery vehicles for improving acute retention of stem cells in the infarcted heart. Biomaterials, 2014, 35, 6850-6858.	5.7	140

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127	Upregulation of bone cell differentiation through immobilization within a synthetic extracellular matrix. Biomaterials, 2007, 28, 3644-3655.	5.7	139
128	Spatiotemporal delivery of bone morphogenetic protein enhances functional repair of segmental bone defects. Bone, 2011, 49, 485-492.	1.4	135
129	Targeted Delivery of Nanoparticles to Ischemic Muscle for Imaging and Therapeutic Angiogenesis. Nano Letters, 2011, 11, 694-700.	4.5	135
130	Dynamic Seeding and in Vitro Culture of Hepatocytes in a Flow Perfusion System. Tissue Engineering, 2000, 6, 39-44.	4.9	134
131	Injectable nanocomposite cryogels for versatile protein drug delivery. Acta Biomaterialia, 2018, 65, 36-43.	4.1	134
132	Smooth muscle cell adhesion to tissue engineering scaffolds. Biomaterials, 2000, 21, 2025-2032.	5.7	132
133	Engineering Dental Pulp-like Tissue in Vitro. Biotechnology Progress, 1996, 12, 865-868.	1.3	131
134	Biomaterials to Mimic and Heal Connective Tissues. Advanced Materials, 2019, 31, e1806695.	11.1	131
135	Clickâ€Crosslinked Injectable Gelatin Hydrogels. Advanced Healthcare Materials, 2016, 5, 541-547.	3.9	129
136	Biphasic Ferrogels for Triggered Drug and Cell Delivery. Advanced Healthcare Materials, 2014, 3, 1869-1876.	3.9	126
137	The role of multifunctional delivery scaffold in the ability of cultured myoblasts to promote muscle regeneration. Biomaterials, 2011, 32, 8905-8914.	5.7	124
138	Vaccines Combined with Immune Checkpoint Antibodies Promote Cytotoxic T-cell Activity and Tumor Eradication. Cancer Immunology Research, 2016, 4, 95-100.	1.6	124
139	Programmable microencapsulation for enhanced mesenchymal stem cell persistence and immunomodulation. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 15392-15397.	3.3	124
140	On-demand drug delivery from local depots. Journal of Controlled Release, 2015, 219, 8-17.	4.8	123
141	Controlled delivery of inductive proteins, plasmid DNA and cells from tissue engineering matrices. Journal of Periodontal Research, 1999, 34, 413-419.	1.4	121
142	Peptide and Protein Presenting Materials for Tissue Engineering. Advanced Materials, 2004, 16, 17-25.	11.1	120
143	Sustained Vascular Endothelial Growth Factor Delivery Enhances Angiogenesis and Perfusion in Ischemic Hind Limb. Pharmaceutical Research, 2005, 22, 1110-1116.	1.7	120
144	Hydrogel substrate stress-relaxation regulates the spreading and proliferation of mouse myoblasts. Acta Biomaterialia, 2017, 62, 82-90.	4.1	120

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145	Extracellular matrix stiffness causes systematic variations in proliferation and chemosensitivity in myeloid leukemias. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 12126-12131.	3.3	119
146	One-step generation of cell-laden microgels using double emulsion drops with a sacrificial ultra-thin oil shell. Lab on A Chip, 2016, 16, 1549-1555.	3.1	119
147	Reprogrammed Stomach Tissue as a Renewable Source of Functional Î² Cells for Blood Glucose Regulation. Cell Stem Cell, 2016, 18, 410-421.	5.2	119
148	Comparative study of seeding methods for three-dimensional polymeric scaffolds. Journal of Biomedical Materials Research Part B, 2000, 51, 642-649.	3.0	118
149	Microfluidic Templated Multicompartment Microgels for 3D Encapsulation and Pairing of Single Cells. Small, 2018, 14, 1702955.	5.2	118
150	A nanoparticleâ€™s pathway into tumours. Nature Materials, 2020, 19, 486-487.	13.3	117
151	Role of synthetic extracellular matrix in development of engineered dental pulp. Journal of Biomaterials Science, Polymer Edition, 1998, 9, 749-764.	1.9	115
152	Biomaterials for enhancing anti-cancer immunity. Current Opinion in Biotechnology, 2016, 40, 1-8.	3.3	115
153	Hydrogel Formation via Cell Crosslinking. Advanced Materials, 2003, 15, 1828-1832.	11.1	113
154	Controlling Degradation of Hydrogels via the Size of Crosslinked Junctions. Advanced Materials, 2004, 16, 1917-1921.	11.1	112
155	Spatiotemporal control over growth factor signaling for therapeutic neovascularizationâ˜†. Advanced Drug Delivery Reviews, 2007, 59, 1340-1350.	6.6	112
156	Functional muscle recovery with nanoparticle-directed M2 macrophage polarization in mice. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 10648-10653.	3.3	112
157	Biomaterial-based delivery for skeletal muscle repair. Advanced Drug Delivery Reviews, 2015, 84, 188-197.	6.6	105
158	Emerging Trends in Micro- and Nanoscale Technologies in Medicine: From Basic Discoveries to Translation. ACS Nano, 2017, 11, 5195-5214.	7.3	104
159	Substrate Stressâ€Relaxation Regulates Scaffold Remodeling and Bone Formation In Vivo. Advanced Healthcare Materials, 2017, 6, 1601185.	3.9	104
160	Development of Technologies Aiding Large-Tissue Engineering. Biotechnology Progress, 1998, 14, 134-140.	1.3	103
161	Metabolic glycan labelling for cancer-targeted therapy. Nature Chemistry, 2020, 12, 1102-1114.	6.6	101
162	Design and Fabrication of a Biodegradable, Covalently Crosslinked Shape-Memory Alginate Scaffold for Cell and Growth Factor Delivery. Tissue Engineering - Part A, 2012, 18, 2000-2007.	1.6	99

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163	Biomaterial-based scaffold for in situ chemo-immunotherapy to treat poorly immunogenic tumors. Nature Communications, 2020, 11, 5696.	5.8	99
164	Metabolic labeling and targeted modulation of dendritic cells. Nature Materials, 2020, 19, 1244-1252.	13.3	99
165	Degradable and Removable Tough Adhesive Hydrogels. Advanced Materials, 2021, 33, e2008553.	11.1	99
166	Shearâ€reversibly Crosslinked Alginate Hydrogels for Tissue Engineering. Macromolecular Bioscience, 2009, 9, 895-901.	2.1	98
167	Leveraging advances in biology to design biomaterials. Nature Materials, 2017, 16, 1178-1185.	13.3	97
168	Engineered materials for cancer immunotherapy. Nano Today, 2015, 10, 511-531.	6.2	96
169	Injectable, Tough Alginate Cryogels as Cancer Vaccines. Advanced Healthcare Materials, 2018, 7, e1701469.	3.9	96
170	Enzymatically-degradable alginate hydrogels promote cell spreading and in vivo tissue infiltration. Biomaterials, 2019, 217, 119294.	5.7	95
171	Material microenvironmental properties couple to induce distinct transcriptional programs in mammalian stem cells. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E8368-E8377.	3.3	93
172	Injectable, Poreâ€Forming Hydrogels for In Vivo Enrichment of Immature Dendritic Cells. Advanced Healthcare Materials, 2015, 4, 2677-2687.	3.9	92
173	Enhanced tendon healing by a tough hydrogel with an adhesive side and high drug-loading capacity. Nature Biomedical Engineering, 2022, 6, 1167-1179.	11.6	92
174	Identification of Immune Factors Regulating Antitumor Immunity Using Polymeric Vaccines with Multiple Adjuvants. Cancer Research, 2014, 74, 1670-1681.	0.4	91
175	Sequential modes of crosslinking tune viscoelasticity of cell-instructive hydrogels. Biomaterials, 2019, 188, 187-197.	5.7	91
176	Controlled Drug Delivery from Polymers by Mechanical Signals. Advanced Materials, 2001, 13, 837-839.	11.1	90
177	Oneâ€Step Microfluidic Fabrication of Polyelectrolyte Microcapsules in Aqueous Conditions for Protein Release. Angewandte Chemie - International Edition, 2016, 55, 13470-13474.	7.2	90
178	Advances in Therapeutic Cancer Vaccines. Advances in Immunology, 2016, 130, 191-249.	1.1	88
179	Localized delivery of epidermal growth factor improves the survival of transplanted hepatocytes. , 1996, 50, 422-429.		87
180	Synthetic niche to modulate regenerative potential of MSCs and enhance skeletal muscle regeneration. Biomaterials, 2016, 99, 95-108.	5.7	87

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181	Polymers for pro- and anti-angiogenic therapy. Biomaterials, 2007, 28, 2069-2076.	5.7	86
182	The effect of surface modification of mesoporous silica micro-rod scaffold on immune cell activation and infiltration. Biomaterials, 2016, 83, 249-256.	5.7	85
183	Refilling drug delivery depots through the blood. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12722-12727.	3.3	84
184	A biomaterial-based vaccine eliciting durable tumour-specific responses against acute myeloid leukaemia. Nature Biomedical Engineering, 2020, 4, 40-51.	11.6	83
185	Fabricating Tubular Devices from Polymers of Lactic and Glycolic Acid for Tissue Engineering. Tissue Engineering, 1995, 1, 107-118.	4.9	82
186	SHAPE-DEFINING SCAFFOLDS FOR MINIMALLY INVASIVE TISSUE ENGINEERING. Transplantation, 2004, 77, 1798-1803.	0.5	82
187	Morphogenesis of 3D vascular networks is regulated by tensile forces. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 3215-3220.	3.3	81
188	Fluorescent resonance energy transfer: A tool for probing molecular cellâ€“biomaterial interactions in three dimensions. Biomaterials, 2007, 28, 2424-2437.	5.7	79
189	Multicomponent Injectable Hydrogels for Antigenâ€Specific Tolerogenic Immune Modulation. Advanced Healthcare Materials, 2017, 6, 1600773.	3.9	79
190	Hydrolytically-degradable click-crosslinked alginate hydrogels. Biomaterials, 2018, 181, 189-198.	5.7	79
191	An injectable bone marrowâ€“like scaffold enhances T cell immunity after hematopoietic stem cell transplantation. Nature Biotechnology, 2019, 37, 293-302.	9.4	79
192	Ca2+ released from calcium alginate gels can promote inflammatory responses in vitro and in vivo. Acta Biomaterialia, 2013, 9, 9281-9291.	4.1	78
193	Minimally Invasive Approach to the Repair of Injured Skeletal Muscle With a Shape-memory Scaffold. Molecular Therapy, 2014, 22, 1441-1449.	3.7	78
194	Sustained Delivery of VEGF Maintains Innervation and Promotes Reperfusion in Ischemic Skeletal Muscles Via NGF/GDNF Signaling. Molecular Therapy, 2014, 22, 1243-1253.	3.7	77
195	Altered ECM deposition by diabetic foot ulcerâ€derived fibroblasts implicates fibronectin in chronic wound repair. Wound Repair and Regeneration, 2016, 24, 630-643.	1.5	77
196	Design Molecular Topology for Wetâ€“Dry Adhesion. ACS Applied Materials & Interfaces, 2019, 11, 24802-24811.	4.0	76
197	Synthetic Extracellular Matrices for Tissue Engineering and Regeneration. Current Topics in Developmental Biology, 2004, 64, 181-205.	1.0	75
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