

David J Mooney

List of Publications by Citations

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369
papers

64,388
citations

119
h-index

251
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395
ext. papers

73,072
ext. citations

13.4
avg, IF

8.44
L-index

#	Paper	IF	Citations
369	Alginate: properties and biomedical applications. <i>Progress in Polymer Science</i> , 2012 , 37, 106-126	29.6	4151
368	Hydrogels for tissue engineering. <i>Chemical Reviews</i> , 2001 , 101, 1869-79	68.1	4050
367	Hydrogels for tissue engineering: scaffold design variables and applications. <i>Biomaterials</i> , 2003 , 24, 4337-51	15.6	3830
366	Highly stretchable and tough hydrogels. <i>Nature</i> , 2012 , 489, 133-6	50.4	3109
365	Alginate hydrogels as synthetic extracellular matrix materials. <i>Biomaterials</i> , 1999 , 20, 45-53	15.6	1800
364	Designing hydrogels for controlled drug delivery. <i>Nature Reviews Materials</i> , 2016 , 1,	73.3	1741
363	Polymeric system for dual growth factor delivery. <i>Nature Biotechnology</i> , 2001 , 19, 1029-34	44.5	1505
362	Alginate hydrogels as biomaterials. <i>Macromolecular Bioscience</i> , 2006 , 6, 623-33	5.5	1282
361	Hydrogels with tunable stress relaxation regulate stem cell fate and activity. <i>Nature Materials</i> , 2016 , 15, 326-34	27	1153
360	Harnessing traction-mediated manipulation of the cell/matrix interface to control stem-cell fate. <i>Nature Materials</i> , 2010 , 9, 518-26	27	1126
359	Growth factor delivery-based tissue engineering: general approaches and a review of recent developments. <i>Journal of the Royal Society Interface</i> , 2011 , 8, 153-70	4.1	996
358	Novel approach to fabricate porous sponges of poly(D,L-lactic-co-glycolic acid) without the use of organic solvents. <i>Biomaterials</i> , 1996 , 17, 1417-22	15.6	911
357	Development of biocompatible synthetic extracellular matrices for tissue engineering. <i>Trends in Biotechnology</i> , 1998 , 16, 224-30	15.1	751
356	Engineering tumors with 3D scaffolds. <i>Nature Methods</i> , 2007 , 4, 855-60	21.6	681
355	Tough adhesives for diverse wet surfaces. <i>Science</i> , 2017 , 357, 378-381	33.3	676
354	Open pore biodegradable matrices formed with gas foaming. <i>Journal of Biomedical Materials Research Part B</i> , 1998 , 42, 396-402		626
353	Mechanical forces direct stem cell behaviour in development and regeneration. <i>Nature Reviews Molecular Cell Biology</i> , 2017 , 18, 728-742	48.7	613

352	Inspiration and application in the evolution of biomaterials. <i>Nature</i> , 2009 , 462, 426-32	50.4	605
351	DNA delivery from polymer matrices for tissue engineering. <i>Nature Biotechnology</i> , 1999 , 17, 551-4	44.5	600
350	Vascular endothelial growth factor (VEGF)-mediated angiogenesis is associated with enhanced endothelial cell survival and induction of Bcl-2 expression. <i>American Journal of Pathology</i> , 1999 , 154, 375-84	5.8	544
349	Extracellular matrix stiffness and composition jointly regulate the induction of malignant phenotypes in mammary epithelium. <i>Nature Materials</i> , 2014 , 13, 970-8	27	515
348	Active scaffolds for on-demand drug and cell delivery. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2011 , 108, 67-72	11.5	505
347	Controlling alginate gel degradation utilizing partial oxidation and bimodal molecular weight distribution. <i>Biomaterials</i> , 2005 , 26, 2455-65	15.6	488
346	Substrate stress relaxation regulates cell spreading. <i>Nature Communications</i> , 2015 , 6, 6364	17.4	485
345	Degradation of partially oxidized alginate and its potential application for tissue engineering. <i>Biotechnology Progress</i> , 2001 , 17, 945-50	2.8	478
344	Regenerative medicine: Current therapies and future directions. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2015 , 112, 14452-9	11.5	464
343	Bioabsorbable polymer scaffolds for tissue engineering capable of sustained growth factor delivery. <i>Journal of Controlled Release</i> , 2000 , 64, 91-102	11.7	431
342	Controlled growth factor release from synthetic extracellular matrices. <i>Nature</i> , 2000 , 408, 998-1000	50.4	415
341	The tensile properties of alginate hydrogels. <i>Biomaterials</i> , 2004 , 25, 3187-99	15.6	398
340	An alginate-based hybrid system for growth factor delivery in the functional repair of large bone defects. <i>Biomaterials</i> , 2011 , 32, 65-74	15.6	397
339	Switching from differentiation to growth in hepatocytes: control by extracellular matrix. <i>Journal of Cellular Physiology</i> , 1992 , 151, 497-505	7	394
338	Cyclic mechanical strain regulates the development of engineered smooth muscle tissue. <i>Nature Biotechnology</i> , 1999 , 17, 979-83	44.5	379
337	Effects of extracellular matrix viscoelasticity on cellular behaviour. <i>Nature</i> , 2020 , 584, 535-546	50.4	362
336	Sustained release of vascular endothelial growth factor from mineralized poly(lactide-co-glycolide) scaffolds for tissue engineering. <i>Biomaterials</i> , 2000 , 21, 2521-7	15.6	359
335	Controlling Mechanical and Swelling Properties of Alginate Hydrogels Independently by Cross-Linker Type and Cross-Linking Density. <i>Macromolecules</i> , 2000 , 33, 4291-4294	5.5	359

334	Dual growth factor delivery and controlled scaffold degradation enhance in vivo bone formation by transplanted bone marrow stromal cells. <i>Bone</i> , 2004 , 35, 562-9	4.7	341
333	Injectable, spontaneously assembling, inorganic scaffolds modulate immune cells in vivo and increase vaccine efficacy. <i>Nature Biotechnology</i> , 2015 , 33, 64-72	44.5	340
332	Engineering growing tissues. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2002 , 99, 12025-30	11.5	334
331	Infection-mimicking materials to program dendritic cells in situ. <i>Nature Materials</i> , 2009 , 8, 151-8	27	327
330	Injectable preformed scaffolds with shape-memory properties. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2012 , 109, 19590-5	11.5	322
329	Functional muscle regeneration with combined delivery of angiogenesis and myogenesis factors. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010 , 107, 3287-92	11.5	321
328	Alginate type and RGD density control myoblast phenotype. <i>Journal of Biomedical Materials Research Part B</i> , 2002 , 60, 217-23		321
327	Controlled growth factor delivery for tissue engineering. <i>Advanced Materials</i> , 2009 , 21, 3269-85	24	320
326	Spatio-temporal VEGF and PDGF delivery patterns blood vessel formation and maturation. <i>Pharmaceutical Research</i> , 2007 , 24, 258-64	4.5	319
325	Transcriptional profiling of stroma from inflamed and resting lymph nodes defines immunological hallmarks. <i>Nature Immunology</i> , 2012 , 13, 499-510	19.1	317
324	Stabilized polyglycolic acid fibre-based tubes for tissue engineering. <i>Biomaterials</i> , 1996 , 17, 115-24	15.6	317
323	Matrix elasticity of void-forming hydrogels controls transplanted-stem-cell-mediated bone formation. <i>Nature Materials</i> , 2015 , 14, 1269-77	27	302
322	Angiogenic effects of sequential release of VEGF-A165 and PDGF-BB with alginate hydrogels after myocardial infarction. <i>Cardiovascular Research</i> , 2007 , 75, 178-85	9.9	294
321	Growing new organs. <i>Scientific American</i> , 1999 , 280, 60-5	0.5	289
320	Ultrasound-triggered disruption and self-healing of reversibly cross-linked hydrogels for drug delivery and enhanced chemotherapy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 9762-7	11.5	282
319	Porous carriers for biomedical applications based on alginate hydrogels. <i>Biomaterials</i> , 2000 , 21, 1921-7	15.6	281
318	Cell delivery mechanisms for tissue repair. <i>Cell Stem Cell</i> , 2008 , 2, 205-13	18	280
317	Regulating bone formation via controlled scaffold degradation. <i>Journal of Dental Research</i> , 2003 , 82, 903-8	8.1	279

316	Designing alginate hydrogels to maintain viability of immobilized cells. <i>Biomaterials</i> , 2003 , 24, 4023-9	15.6	275
315	Controlling rigidity and degradation of alginate hydrogels via molecular weight distribution. <i>Biomacromolecules</i> , 2004 , 5, 1720-7	6.9	271
314	Biomaterials based strategies for skeletal muscle tissue engineering: existing technologies and future trends. <i>Biomaterials</i> , 2015 , 53, 502-21	15.6	270
313	Spatiotemporal control of vascular endothelial growth factor delivery from injectable hydrogels enhances angiogenesis. <i>Journal of Thrombosis and Haemostasis</i> , 2007 , 5, 590-8	15.4	268
312	Biomaterials and emerging anticancer therapeutics: engineering the microenvironment. <i>Nature Reviews Cancer</i> , 2016 , 16, 56-66	31.3	266
311	Cancer cell angiogenic capability is regulated by 3D culture and integrin engagement. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2009 , 106, 399-404	11.5	253
310	In vivo time-gated fluorescence imaging with biodegradable luminescent porous silicon nanoparticles. <i>Nature Communications</i> , 2013 , 4, 2326	17.4	249
309	Cyclic strain enhances matrix mineralization by adult human mesenchymal stem cells via the extracellular signal-regulated kinase (ERK1/2) signaling pathway. <i>Journal of Biomechanics</i> , 2003 , 36, 1087-96	2.96	238
308	Injectable cryogel-based whole-cell cancer vaccines. <i>Nature Communications</i> , 2015 , 6, 7556	17.4	237
307	Stress-relaxation behavior in gels with ionic and covalent crosslinks. <i>Journal of Applied Physics</i> , 2010 , 107, 63509	2.5	230
306	Injection molding of chondrocyte/alginate constructs in the shape of facial implants. <i>Journal of Biomedical Materials Research Part B</i> , 2001 , 55, 503-11		229
305	Growth of continuous bonelike mineral within porous poly(lactide-co-glycolide) scaffolds in vitro. <i>Journal of Biomedical Materials Research Part B</i> , 2000 , 50, 50-8		229
304	Biomaterial-assisted targeted modulation of immune cells in cancer treatment. <i>Nature Materials</i> , 2018 , 17, 761-772	27	226
303	Mechanical confinement regulates cartilage matrix formation by chondrocytes. <i>Nature Materials</i> , 2017 , 16, 1243-1251	27	220
302	Macroscale delivery systems for molecular and cellular payloads. <i>Nature Materials</i> , 2013 , 12, 1004-17	27	217
301	Cell volume change through water efflux impacts cell stiffness and stem cell fate. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2017 , 114, E8618-E8627	11.5	215
300	A facile approach to enhance antigen response for personalized cancer vaccination. <i>Nature Materials</i> , 2018 , 17, 528-534	27	215
299	Performance and biocompatibility of extremely tough alginate/polyacrylamide hydrogels. <i>Biomaterials</i> , 2013 , 34, 8042-8	15.6	213

298	Microfluidic Generation of Monodisperse, Structurally Homogeneous Alginate Microgels for Cell Encapsulation and 3D Cell Culture. <i>Advanced Healthcare Materials</i> , 2015 , 4, 1628-33	10.1	208
297	Optimizing seeding and culture methods to engineer smooth muscle tissue on biodegradable polymer matrices 1998 , 57, 46-54		206
296	Injectable, porous, and cell-responsive gelatin cryogels. <i>Biomaterials</i> , 2014 , 35, 2477-87	15.6	205
295	An integrated microrobotic platform for on-demand, targeted therapeutic interventions. <i>Advanced Materials</i> , 2014 , 26, 952-7	24	200
294	Tissue engineering using synthetic extracellular matrices. <i>Nature Medicine</i> , 1996 , 2, 824-6	50.5	200
293	Deterministic encapsulation of single cells in thin tunable microgels for niche modelling and therapeutic delivery. <i>Nature Materials</i> , 2017 , 16, 236-243	27	199
292	Synthesis of cross-linked poly(aldehyde guluronate) hydrogels. <i>Polymer</i> , 1999 , 40, 3575-3584	3.9	198
291	Long-term engraftment of hepatocytes transplanted on biodegradable polymer sponges. <i>Journal of Biomedical Materials Research Part B</i> , 1997 , 37, 413-20		196
290	Rigidity of Two-Component Hydrogels Prepared from Alginate and Poly(ethylene glycol) Diamines. <i>Macromolecules</i> , 1999 , 32, 5561-5566	5.5	195
289	Engineered bone development from a pre-osteoblast cell line on three-dimensional scaffolds. <i>Tissue Engineering</i> , 2000 , 6, 605-17		193
288	Soft robotic sleeve supports heart function. <i>Science Translational Medicine</i> , 2017 , 9,	17.5	191
287	Bioinspired mechanically active adhesive dressings to accelerate wound closure. <i>Science Advances</i> , 2019 , 5, eaaw3963	14.3	189
286	Versatile click alginate hydrogels crosslinked via tetrazine-norbornene chemistry. <i>Biomaterials</i> , 2015 , 50, 30-7	15.6	185
285	Influence of the stiffness of three-dimensional alginate/collagen-I interpenetrating networks on fibroblast biology. <i>Biomaterials</i> , 2014 , 35, 8927-36	15.6	184
284	Biomaterial delivery of morphogens to mimic the natural healing cascade in bone. <i>Advanced Drug Delivery Reviews</i> , 2012 , 64, 1257-76	18.5	184
283	In situ regulation of DC subsets and T cells mediates tumor regression in mice. <i>Science Translational Medicine</i> , 2009 , 1, 8ra19	17.5	184
282	Material-based deployment enhances efficacy of endothelial progenitor cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2008 , 105, 14347-52	11.5	180
281	Engineering vascular networks in porous polymer matrices. <i>Journal of Biomedical Materials Research Part B</i> , 2002 , 60, 668-78		180

280	Degradation Behavior of Covalently Cross-Linked Poly(aldehyde guluronate) Hydrogels. <i>Macromolecules</i> , 2000 , 33, 97-101	5.5	179
279	Regulating myoblast phenotype through controlled gel stiffness and degradation. <i>Tissue Engineering</i> , 2007 , 13, 1431-42		174
278	The CLEC-2-podoplanin axis controls the contractility of fibroblastic reticular cells and lymph node microarchitecture. <i>Nature Immunology</i> , 2015 , 16, 75-84	19.1	173
277	Scaffolds that mimic antigen-presenting cells enable ex vivo expansion of primary T cells. <i>Nature Biotechnology</i> , 2018 , 36, 160-169	44.5	173
276	Engineered smooth muscle tissues: regulating cell phenotype with the scaffold. <i>Experimental Cell Research</i> , 1999 , 251, 318-28	4.2	173
275	Independent Control of Rigidity and Toughness of Polymeric Hydrogels. <i>Macromolecules</i> , 2003 , 36, 4582-4588	2.5	172
274	Cartilage Engineered in Predetermined Shapes Employing Cell Transplantation on Synthetic Biodegradable Polymers. <i>Plastic and Reconstructive Surgery</i> , 1994 , 94, 233-237	2.7	172
273	Engineering smooth muscle tissue with a predefined structure. <i>Journal of Biomedical Materials Research Part B</i> , 1998 , 41, 322-32		171
272	Release from alginate enhances the biological activity of vascular endothelial growth factor. <i>Journal of Biomaterials Science, Polymer Edition</i> , 1998 , 9, 1267-78	3.5	159
271	A bioinspired soft actuated material. <i>Advanced Materials</i> , 2014 , 26, 1200-6	24	158
270	Biodegradable sponges for hepatocyte transplantation. <i>Journal of Biomedical Materials Research Part B</i> , 1995 , 29, 959-65		158
269	Photoactivation of endogenous latent transforming growth factor- β directs dental stem cell differentiation for regeneration. <i>Science Translational Medicine</i> , 2014 , 6, 238ra69	17.5	156
268	Effects of substrate stiffness and cell-cell contact on mesenchymal stem cell differentiation. <i>Biomaterials</i> , 2016 , 98, 184-91	15.6	156
267	Nanoscale Adhesion Ligand Organization Regulates Osteoblast Proliferation and Differentiation. <i>Nano Letters</i> , 2004 , 4, 1501-1506	11.5	154
266	Protein-based signaling systems in tissue engineering. <i>Current Opinion in Biotechnology</i> , 2003 , 14, 559-65	1.4	151
265	3D Printed Microtransporters: Compound Micromachines for Spatiotemporally Controlled Delivery of Therapeutic Agents. <i>Advanced Materials</i> , 2015 , 27, 6644-50	24	148
264	Craniofacial tissue engineering. <i>Critical Reviews in Oral Biology and Medicine</i> , 2001 , 12, 64-75		148
263	Enhancing microvascular formation and vessel maturation through temporal control over multiple pro-angiogenic and pro-maturation factors. <i>Biomaterials</i> , 2013 , 34, 9201-9	15.6	143

262	Comparison of vascular endothelial growth factor and basic fibroblast growth factor on angiogenesis in SCID mice. <i>Journal of Controlled Release</i> , 2003 , 87, 49-56	11.7	143
261	Hydrogels for combination delivery of antineoplastic agents. <i>Biomaterials</i> , 2001 , 22, 2625-33	15.6	140
260	Design and fabrication of biodegradable polymer devices to engineer tubular tissues. <i>Cell Transplantation</i> , 1994 , 3, 203-10	4	138
259	Biomaterials that promote cell-cell interactions enhance the paracrine function of MSCs. <i>Biomaterials</i> , 2017 , 140, 103-114	15.6	137
258	Scaffolds for engineering smooth muscle under cyclic mechanical strain conditions. <i>Journal of Biomechanical Engineering</i> , 2000 , 122, 210-5	2.1	137
257	Degradable and injectable poly(aldehyde guluronate) hydrogels for bone tissue engineering. <i>Journal of Biomedical Materials Research Part B</i> , 2001 , 56, 228-33		136
256	Controlled degradation of hydrogels using multi-functional cross-linking molecules. <i>Biomaterials</i> , 2004 , 25, 2461-6	15.6	134
255	Upregulation of bone cell differentiation through immobilization within a synthetic extracellular matrix. <i>Biomaterials</i> , 2007 , 28, 3644-55	15.6	128
254	Decoupling the dependence of rheological/mechanical properties of hydrogels from solids concentration. <i>Polymer</i> , 2002 , 43, 6239-6246	3.9	126
253	Liposomal Delivery Enhances Immune Activation by STING Agonists for Cancer Immunotherapy. <i>Advanced Biology</i> , 2017 , 1, 1600013	3.5	122
252	Dynamic seeding and in vitro culture of hepatocytes in a flow perfusion system. <i>Tissue Engineering</i> , 2000 , 6, 39-44		122
251	Substance P promotes wound healing in diabetes by modulating inflammation and macrophage phenotype. <i>American Journal of Pathology</i> , 2015 , 185, 1638-48	5.8	121
250	Comparison of biomaterial delivery vehicles for improving acute retention of stem cells in the infarcted heart. <i>Biomaterials</i> , 2014 , 35, 6850-6858	15.6	119
249	Smooth muscle cell adhesion to tissue engineering scaffolds. <i>Biomaterials</i> , 2000 , 21, 2025-32	15.6	118
248	Spatiotemporal delivery of bone morphogenetic protein enhances functional repair of segmental bone defects. <i>Bone</i> , 2011 , 49, 485-92	4.7	116
247	Targeted delivery of nanoparticles to ischemic muscle for imaging and therapeutic angiogenesis. <i>Nano Letters</i> , 2011 , 11, 694-700	11.5	113
246	Engineering dental pulp-like tissue in vitro. <i>Biotechnology Progress</i> , 1996 , 12, 865-8	2.8	111
245	Biologic-free mechanically induced muscle regeneration. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 1534-9	11.5	110

244	The role of multifunctional delivery scaffold in the ability of cultured myoblasts to promote muscle regeneration. <i>Biomaterials</i> , 2011 , 32, 8905-14	15.6	110
243	Sustained vascular endothelial growth factor delivery enhances angiogenesis and perfusion in ischemic hind limb. <i>Pharmaceutical Research</i> , 2005 , 22, 1110-6	4.5	108
242	Peptide and Protein Presenting Materials for Tissue Engineering. <i>Advanced Materials</i> , 2004 , 16, 17-25	24	107
241	Biomaterials for skeletal muscle tissue engineering. <i>Current Opinion in Biotechnology</i> , 2017 , 47, 16-22	11.4	106
240	Biphasic ferrogels for triggered drug and cell delivery. <i>Advanced Healthcare Materials</i> , 2014 , 3, 1869-76	10.1	105
239	Controlled delivery of inductive proteins, plasmid DNA and cells from tissue engineering matrices. <i>Journal of Periodontal Research</i> , 1999 , 34, 413-9	4.3	105
238	Vaccines Combined with Immune Checkpoint Antibodies Promote Cytotoxic T-cell Activity and Tumor Eradication. <i>Cancer Immunology Research</i> , 2016 , 4, 95-100	12.5	103
237	Macroscale biomaterials strategies for local immunomodulation. <i>Nature Reviews Materials</i> , 2019 , 4, 379-393	39.3	102
236	Hydrogel Formation via Cell Crosslinking. <i>Advanced Materials</i> , 2003 , 15, 1828-1832	24	102
235	On-demand drug delivery from local depots. <i>Journal of Controlled Release</i> , 2015 , 219, 8-17	11.7	101
234	Spatiotemporal control over growth factor signaling for therapeutic neovascularization. <i>Advanced Drug Delivery Reviews</i> , 2007 , 59, 1340-50	18.5	100
233	Comparative study of seeding methods for three-dimensional polymeric scaffolds. <i>Journal of Biomedical Materials Research Part B</i> , 2000 , 51, 642-9		100
232	Controlling Degradation of Hydrogels via the Size of Cross-Linked Junctions. <i>Advanced Materials</i> , 2004 , 16, 1917-1921	24	95
231	Biomaterials for enhancing anti-cancer immunity. <i>Current Opinion in Biotechnology</i> , 2016 , 40, 1-8	11.4	94
230	Role of synthetic extracellular matrix in development of engineered dental pulp. <i>Journal of Biomaterials Science, Polymer Edition</i> , 1998 , 9, 749-64	3.5	94
229	Click-Crosslinked Injectable Gelatin Hydrogels. <i>Advanced Healthcare Materials</i> , 2016 , 5, 541-7	10.1	92
228	One-step generation of cell-laden microgels using double emulsion drops with a sacrificial ultra-thin oil shell. <i>Lab on A Chip</i> , 2016 , 16, 1549-55	7.2	91
227	Injectable nanocomposite cryogels for versatile protein drug delivery. <i>Acta Biomaterialia</i> , 2018 , 65, 36-43	10.8	90

226	Design and fabrication of a biodegradable, covalently crosslinked shape-memory alginate scaffold for cell and growth factor delivery. <i>Tissue Engineering - Part A</i> , 2012 , 18, 2000-7	3.9	87
225	Shear-reversibly crosslinked alginate hydrogels for tissue engineering. <i>Macromolecular Bioscience</i> , 2009 , 9, 895-901	5.5	87
224	Extracellular matrix stiffness causes systematic variations in proliferation and chemosensitivity in myeloid leukemias. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2016 , 113, 12126-12131	11.5	87
223	Development of technologies aiding large-tissue engineering. <i>Biotechnology Progress</i> , 1998 , 14, 134-40	2.8	86
222	Biomaterial-based delivery for skeletal muscle repair. <i>Advanced Drug Delivery Reviews</i> , 2015 , 84, 188-97	18.5	84
221	Controlled Drug Delivery from Polymers by Mechanical Signals. <i>Advanced Materials</i> , 2001 , 13, 837-839	24	84
220	Identification of immune factors regulating antitumor immunity using polymeric vaccines with multiple adjuvants. <i>Cancer Research</i> , 2014 , 74, 1670-81	10.1	82
219	Reprogrammed Stomach Tissue as a Renewable Source of Functional β Cells for Blood Glucose Regulation. <i>Cell Stem Cell</i> , 2016 , 18, 410-21	18	81
218	Localized delivery of epidermal growth factor improves the survival of transplanted hepatocytes. <i>Biotechnology and Bioengineering</i> , 1996 , 50, 422-9	4.9	80
217	Biomaterials to Mimic and Heal Connective Tissues. <i>Advanced Materials</i> , 2019 , 31, e1806695	24	79
216	Emerging Trends in Micro- and Nanoscale Technologies in Medicine: From Basic Discoveries to Translation. <i>ACS Nano</i> , 2017 , 11, 5195-5214	16.7	78
215	Biomaterials functionalized with MSC secreted extracellular vesicles and soluble factors for tissue regeneration. <i>Advanced Functional Materials</i> , 2020 , 30, 1909125	15.6	78
214	Polymers for pro- and anti-angiogenic therapy. <i>Biomaterials</i> , 2007 , 28, 2069-76	15.6	78
213	Engineered Materials for Cancer Immunotherapy. <i>Nano Today</i> , 2015 , 10, 511-531	17.9	76
212	Shape-defining scaffolds for minimally invasive tissue engineering. <i>Transplantation</i> , 2004 , 77, 1798-803	1.8	74
211	Fabricating tubular devices from polymers of lactic and glycolic Acid for tissue engineering. <i>Tissue Engineering</i> , 1995 , 1, 107-18		74
210	Programmable microencapsulation for enhanced mesenchymal stem cell persistence and immunomodulation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019 , 116, 15392-15397	11.5	73
209	Fluorescent resonance energy transfer: A tool for probing molecular cell-biomaterial interactions in three dimensions. <i>Biomaterials</i> , 2007 , 28, 2424-37	15.6	73

208	Hydrogel substrate stress-relaxation regulates the spreading and proliferation of mouse myoblasts. <i>Acta Biomaterialia</i> , 2017 , 62, 82-90	10.8	72
207	Advances in Therapeutic Cancer Vaccines. <i>Advances in Immunology</i> , 2016 , 130, 191-249	5.6	71
206	One-Step Microfluidic Fabrication of Polyelectrolyte Microcapsules in Aqueous Conditions for Protein Release. <i>Angewandte Chemie - International Edition</i> , 2016 , 55, 13470-13474	16.4	71
205	Polymeric Tissue Adhesives. <i>Chemical Reviews</i> , 2021 , 121, 11336-11384	68.1	71
204	Minimally invasive approach to the repair of injured skeletal muscle with a shape-memory scaffold. <i>Molecular Therapy</i> , 2014 , 22, 1441-1449	11.7	70
203	Refilling drug delivery depots through the blood. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014 , 111, 12722-7	11.5	70
202	Leveraging advances in biology to design biomaterials. <i>Nature Materials</i> , 2017 , 16, 1178-1185	27	70
201	Functional muscle recovery with nanoparticle-directed M2 macrophage polarization in mice. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, 10648-10653	11.5	70
200	Substrate Stress-Relaxation Regulates Scaffold Remodeling and Bone Formation In Vivo. <i>Advanced Healthcare Materials</i> , 2017 , 6, 1601185	10.1	68
199	Synthetic niche to modulate regenerative potential of MSCs and enhance skeletal muscle regeneration. <i>Biomaterials</i> , 2016 , 99, 95-108	15.6	68
198	Material microenvironmental properties couple to induce distinct transcriptional programs in mammalian stem cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2018 , 115, E8368-E8377	11.5	67
197	Transplantation of hepatocytes using porous, biodegradable sponges. <i>Transplantation Proceedings</i> , 1994 , 26, 3425-6	1.1	67
196	The effect of surface modification of mesoporous silica micro-rod scaffold on immune cell activation and infiltration. <i>Biomaterials</i> , 2016 , 83, 249-56	15.6	65
195	Sustained delivery of VEGF maintains innervation and promotes reperfusion in ischemic skeletal muscles via NGF/GDNF signaling. <i>Molecular Therapy</i> , 2014 , 22, 1243-1253	11.7	65
194	Patterning alginate hydrogels using light-directed release of caged calcium in a microfluidic device. <i>Biomedical Microdevices</i> , 2010 , 12, 145-51	3.7	64
193	Injectable, Tough Alginate Cryogels as Cancer Vaccines. <i>Advanced Healthcare Materials</i> , 2018 , 7, e1701469	69.1	63
192	Microfluidic Templated Multicompartment Microgels for 3D Encapsulation and Pairing of Single Cells. <i>Small</i> , 2018 , 14, 1702955	11	63
191	An injectable bone marrow-like scaffold enhances T cell immunity after hematopoietic stem cell transplantation. <i>Nature Biotechnology</i> , 2019 , 37, 293-302	44.5	62

190	Synthetic extracellular matrices for tissue engineering and regeneration. <i>Current Topics in Developmental Biology</i> , 2004 , 64, 181-205	5.3	62
189	Injectable, Pore-Forming Hydrogels for In Vivo Enrichment of Immature Dendritic Cells. <i>Advanced Healthcare Materials</i> , 2015 , 4, 2677-87	10.1	61
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