Gordana Vunjak-Novakovic

List of Publications by Year
in descending order

413 papers	42,945 citations	813 118 h-index	2629 194 g-index
435 all docs	435 docs citations	435 times ranked	31026 citing authors

#	Article	IF	Citations
1	Biodegradable Polymer Scaffolds for Tissue Engineering. Nature Biotechnology, 1994, 12, 689-693.	17.5	921
2	Advanced maturation of human cardiac tissue grown from pluripotent stem cells. Nature, 2018, 556, 239-243.	27.8	921
3	Stem cell-based tissue engineering with silk biomaterials. Biomaterials, 2006, 27, 6064-6082.	11.4	869
4	Functional assembly of engineered myocardium by electrical stimulation of cardiac myocytes cultured on scaffolds. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 18129-18134.	7.1	831
5	The role of macrophage phenotype in vascularization of tissue engineering scaffolds. Biomaterials, 2014, 35, 4477-4488.	11.4	728
6	The inflammatory responses to silk films in vitro and in vivo. Biomaterials, 2005, 26, 147-155.	11.4	725
7	Bioreactor cultivation conditions modulate the composition and mechanical properties of tissue-engineered cartilage. Journal of Orthopaedic Research, 1999, 17, 130-138.	2.3	664
8	Hyaluronic acid hydrogel for controlled self-renewal and differentiation of human embryonic stem cells. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 11298-11303.	7.1	615
9	Sequential delivery of immunomodulatory cytokines to facilitate the M1-to-M2 transition of macrophages and enhance vascularization of bone scaffolds. Biomaterials, 2015, 37, 194-207.	11.4	568
10	Cell differentiation by mechanical stress. FASEB Journal, 2002, 16, 1-13.	0.5	561
11	Engineering Complex Tissues. Tissue Engineering, 2006, 12, 3307-3339.	4.6	513
12	Efficient generation of lung and airway epithelial cells from human pluripotent stem cells. Nature Biotechnology, 2014, 32, 84-91.	17.5	497
13	Tissue engineering by self-assembly and bio-printing of living cells. Biofabrication, 2010, 2, 022001.	7.1	492
14	Dynamic Cell Seeding of Polymer Scaffolds for Cartilage Tissue Engineering. Biotechnology Progress, 1998, 14, 193-202.	2.6	490
15	Bone Tissue Engineering Using Human Mesenchymal Stem Cells: Effects of Scaffold Material and Medium Flow. Annals of Biomedical Engineering, 2004, 32, 112-122.	2.5	483
16	Organs-on-a-Chip: A Fast Track for Engineered Human Tissues in Drug Development. Cell Stem Cell, 2018, 22, 310-324.	11.1	479
17	Cardiac tissue engineering: Cell seeding, cultivation parameters, and tissue construct characterization. Biotechnology and Bioengineering, 1999, 64, 580-589.	3.3	473
18	Electrical stimulation systems for cardiac tissue engineering. Nature Protocols, 2009, 4, 155-173.	12.0	463

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19	Challenges in Cardiac Tissue Engineering. Tissue Engineering - Part B: Reviews, 2010, 16, 169-187.	4.8	431
20	Engineered Microenvironments for Controlled Stem Cell Differentiation. Tissue Engineering - Part A, 2009, 15, 205-219.	3.1	429
21	Chondrogenesis in a Cell-Polymer-Bioreactor System. Experimental Cell Research, 1998, 240, 58-65.	2.6	423
22	Silk implants for the healing of critical size bone defects. Bone, 2005, 37, 688-698.	2.9	416
23	A Platform for Generation of Chamber-Specific Cardiac Tissues and Disease Modeling. Cell, 2019, 176, 913-927.e18.	28.9	398
24	Tissue engineering of cartilage in space. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 13885-13890.	7.1	385
25	Growth factor gradients via microsphere delivery in biopolymer scaffolds for osteochondral tissue engineering. Journal of Controlled Release, 2009, 134, 81-90.	9.9	385
26	Engineering anatomically shaped human bone grafts. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3299-3304.	7.1	367
27	Oxygen gradients correlate with cell density and cell viability in engineered cardiac tissue. Biotechnology and Bioengineering, 2006, 93, 332-343.	3.3	360
28	Tissue Engineering by Self-Assembly of Cells Printed into Topologically Defined Structures. Tissue Engineering - Part A, 2008, 14, 413-421.	3.1	337
29	Control of in vitro tissue-engineered bone-like structures using human mesenchymal stem cells and porous silk scaffolds. Biomaterials, 2007, 28, 1152-1162.	11.4	335
30	Silk fibroin as an organic polymer for controlled drug delivery. Journal of Controlled Release, 2006, 111, 219-227.	9.9	328
31	Engineering bone-like tissuein vitro using human bone marrow stem cells and silk scaffolds. Journal of Biomedical Materials Research Part B, 2004, 71A, 25-34.	3.1	319
32	Tissue Engineering of Ligaments. Annual Review of Biomedical Engineering, 2004, 6, 131-156.	12.3	313
33	Perfusion Improves Tissue Architecture of Engineered Cardiac Muscle. Tissue Engineering, 2002, 8, 175-188.	4.6	308
34	Electrically Conductive Chitosan/Carbon Scaffolds for Cardiac Tissue Engineering. Biomacromolecules, 2014, 15, 635-643.	5.4	306
35	Medium perfusion enables engineering of compact and contractile cardiac tissue. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 286, H507-H516.	3.2	296
36	Biomimetic Approach to Cardiac Tissue Engineering: Oxygen Carriers and Channeled Scaffolds. Tissue Engineering, 2006, 12, 2077-2091.	4.6	296

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37	Tissueâ€engineered composites for the repair of large osteochondral defects. Arthritis and Rheumatism, 2002, 46, 2524-2534.	6.7	295
38	Engineering cartilageâ€like tissue using human mesenchymal stem cells and silk protein scaffolds. Biotechnology and Bioengineering, 2004, 88, 379-391.	3.3	285
39	Influence of macroporous protein scaffolds on bone tissue engineering from bone marrow stem cells. Biomaterials, 2005, 26, 4442-4452.	11.4	283
40	Tissue Engineered Bone Grafts: Biological Requirements, Tissue Culture and Clinical Relevance. Current Stem Cell Research and Therapy, 2008, 3, 254-264.	1.3	280
41	Tissue Engineering and Developmental Biology: Going Biomimetic. Tissue Engineering, 2006, 12, 3265-3283.	4.6	273
42	High-density seeding of myocyte cells for cardiac tissue engineering. Biotechnology and Bioengineering, 2003, 82, 403-414.	3.3	268
43	Bioactive hydrogel scaffolds for controllable vascular differentiation of human embryonic stem cells. Biomaterials, 2007, 28, 2706-2717.	11.4	262
44	Advanced Tools for Tissue Engineering: Scaffolds, Bioreactors, and Signaling. Tissue Engineering, 2006, 12, 3285-3305.	4.6	255
45	Cardiac tissue engineering using perfusion bioreactor systems. Nature Protocols, 2008, 3, 719-738.	12.0	249
46	Cardiac recovery via extended cell-free delivery of extracellular vesicles secreted by cardiomyocytes derived from induced pluripotent stem cells. Nature Biomedical Engineering, 2018, 2, 293-303.	22.5	249
47	A guide to the organ-on-a-chip. Nature Reviews Methods Primers, 2022, 2, .	21.2	247
48	Silk fibroin microtubes for blood vessel engineering. Biomaterials, 2007, 28, 5271-5279.	11.4	246
49	Mammalian Chondrocytes Expanded in the Presence of Fibroblast Growth Factor 2 Maintain the Ability to Differentiate and Regenerate Three-Dimensional Cartilaginous Tissue. Experimental Cell Research, 1999, 253, 681-688.	2.6	242
50	Composite scaffold provides a cell delivery platform for cardiovascular repair. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 7974-7979.	7.1	241
51	Nucleation and growth of mineralized bone matrix on silk-hydroxyapatite composite scaffolds. Biomaterials, 2011, 32, 2812-2820.	11.4	238
52	Culture of organized cell communities. Advanced Drug Delivery Reviews, 1998, 33, 15-30.	13.7	236
53	Electrical stimulation of human embryonic stem cells: Cardiac differentiation and the generation of reactive oxygen species. Experimental Cell Research, 2009, 315, 3611-3619.	2.6	234
54	Mathematical model of oxygen distribution in engineered cardiac tissue with parallel channel array perfused with culture medium containing oxygen carriers. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H1278-H1289.	3.2	232

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55	The Cellular and Physiological Basis for Lung Repair and Regeneration: Past, Present, and Future. Cell Stem Cell, 2020, 26, 482-502.	11.1	230
56	Mechanical Stimulation Promotes Osteogenic Differentiation of Human Bone Marrow Stromal Cells on 3-D Partially Demineralized Bone Scaffolds In Vitro. Calcified Tissue International, 2004, 74, 458-468.	3.1	227
57	Silk microfiber-reinforced silk hydrogel composites for functional cartilage tissue repair. Acta Biomaterialia, 2015, 11, 27-36.	8.3	220
58	Vascular Progenitor Cells Isolated From Human Embryonic Stem Cells Give Rise to Endothelial and Smooth Muscleâ€"Like Cells and Form Vascular Networks In Vivo. Circulation Research, 2007, 101, 286-294.	4.5	219
59	Integration of engineered cartilage. Journal of Orthopaedic Research, 2001, 19, 1089-1097.	2.3	214
60	Silk based biomaterials to heal critical sized femur defects. Bone, 2006, 39, 922-931.	2.9	214
61	Effects of Initial Seeding Density and Fluid Perfusion Rate on Formation of Tissue-Engineered Bone. Tissue Engineering - Part A, 2008, 14, 1809-1820.	3.1	213
62	Adipose Tissue Engineering for Soft Tissue Regeneration. Tissue Engineering - Part B: Reviews, 2010, 16, 413-426.	4.8	212
63	The effect of actin disrupting agents on contact guidance of human embryonic stem cells. Biomaterials, 2007, 28, 4068-4077.	11.4	211
64	Macrophages modulate the viability and growth of human mesenchymal stem cells. Journal of Cellular Biochemistry, 2013, 114, 220-229.	2.6	211
65	Development of silk-based scaffolds for tissue engineering of bone from human adipose-derived stem cells. Acta Biomaterialia, 2012, 8, 2483-2492.	8.3	210
66	Micropatterned mammalian cells exhibit phenotype-specific left-right asymmetry. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 12295-12300.	7.1	209
67	Micro-bioreactor array for controlling cellular microenvironments. Lab on A Chip, 2007, 7, 710.	6.0	208
68	Bioreactors mediate the effectiveness of tissue engineering scaffolds. FASEB Journal, 2002, 16, 1691-1694.	0.5	207
69	Hypoxia and stem cellâ€based engineering of mesenchymal tissues. Biotechnology Progress, 2009, 25, 32-42.	2.6	203
70	Decellularization of Human and Porcine Lung Tissues for Pulmonary Tissue Engineering. Annals of Thoracic Surgery, 2013, 96, 1046-1056.	1.3	203
71	Gas exchange is essential for bioreactor cultivation of tissue engineered cartilage. Biotechnology and Bioengineering, 1999, 63, 197-205.	3.3	202
72	Porous silk fibroin 3-D scaffolds for delivery of bone morphogenetic protein-2in vitro andin vivo. Journal of Biomedical Materials Research - Part A, 2006, 78A, 324-334.	4.0	201

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73	Tissue Engineering by Self-Assembly of Cells Printed into Topologically Defined Structures. Tissue Engineering, 0, , 110306233438005.	4.6	200
74	Engineering bone tissue substitutes from human induced pluripotent stem cells. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 8680-8685.	7.1	196
75	Advanced Bioreactor with Controlled Application of Multi-Dimensional Strain For Tissue Engineering. Journal of Biomechanical Engineering, 2002, 124, 742-749.	1.3	195
76	Collagen in tissue-engineered cartilage: Types, structure, and crosslinks. , 1998, 71, 313-327.		191
77	Differential Effects of Growth Factors on Tissue-Engineered Cartilage. Tissue Engineering, 2002, 8, 73-84.	4.6	190
78	Tissue-engineered autologous grafts for facial bone reconstruction. Science Translational Medicine, 2016, 8, 343ra83.	12.4	187
79	Microgravity tissue engineering. In Vitro Cellular and Developmental Biology - Animal, 1997, 33, 381-385.	1.5	181
80	Cartilage-like Tissue Engineering Using Silk Scaffolds and Mesenchymal Stem Cells. Tissue Engineering, 2006, 12, 2729-2738.	4.6	181
81	Microfluidic patterning for fabrication of contractile cardiac organoids. Biomedical Microdevices, 2007, 9, 149-157.	2.8	179
82	Bioengineering Heart Muscle: A Paradigm for Regenerative Medicine. Annual Review of Biomedical Engineering, 2011, 13, 245-267.	12.3	172
83	Osteogenesis by human mesenchymal stem cells cultured on silk biomaterials: Comparison of adenovirus mediated gene transfer and protein delivery of BMP-2. Biomaterials, 2006, 27, 4993-5002.	11.4	171
84	Bone and cartilage tissue constructs grown using human bone marrow stromal cells, silk scaffolds and rotating bioreactors. Biomaterials, 2006, 27, 6138-6149.	11.4	171
85	Silk hydrogel for cartilage tissue engineering. Journal of Biomedical Materials Research - Part B Applied Biomaterials, 2010, 95B, 84-90.	3.4	167
86	Preâ€treatment of synthetic elastomeric scaffolds by cardiac fibroblasts improves engineered heart tissue. Journal of Biomedical Materials Research - Part A, 2008, 86A, 713-724.	4.0	166
87	Large, stratified, and mechanically functional human cartilage grown in vitro by mesenchymal condensation. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6940-6945.	7.1	166
88	Human bone perivascular niche-on-a-chip for studying metastatic colonization. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1256-1261.	7.1	163
89	A multi-organ chip with matured tissue niches linked by vascular flow. Nature Biomedical Engineering, 2022, 6, 351-371.	22.5	162
90	Hybrid Gel Composed of Native Heart Matrix and Collagen Induces Cardiac Differentiation of Human Embryonic Stem Cells without Supplemental Growth Factors. Journal of Cardiovascular Translational Research, 2011, 4, 605-615.	2.4	161

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91	Bone Grafts Engineered from Human Adipose-Derived Stem Cells in Perfusion Bioreactor Culture. Tissue Engineering - Part A, 2010, 16, 179-189.	3.1	157
92	Engineering bone tissue from human embryonic stem cells. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 8705-8709.	7.1	153
93	Method for Quantitative Analysis of Glycosaminoglycan Distribution in Cultured Natural and Engineered Cartilage. Annals of Biomedical Engineering, 1999, 27, 656-662.	2.5	151
94	Effects of mixing intensity on tissue-engineered cartilage. Biotechnology and Bioengineering, 2001, 72, 402-407.	3.3	147
95	Tubular silk scaffolds for small diameter vascular grafts. Organogenesis, 2010, 6, 217-224.	1.2	147
96	Growth factors for sequential cellular de- and re-differentiation in tissue engineering. Biochemical and Biophysical Research Communications, 2002, 294, 149-154.	2.1	146
97	Bioreactors for plant engineering: an outlook for further research. Biochemical Engineering Journal, 2000, 4, 89-99.	3.6	143
98	<i>In vitro</i> differentiation of chick embryo bone marrow stromal cells into cartilaginous and boneâ€like tissues. Journal of Orthopaedic Research, 1998, 16, 181-189.	2.3	142
99	Percutaneous Cell Delivery into the Heart Using Hydrogels Polymerizing in Situ. Cell Transplantation, 2009, 18, 297-304.	2.5	142
100	Should we use cells, biomaterials, or tissue engineering for cartilage regeneration?. Stem Cell Research and Therapy, 2016, 7, 56.	5.5	142
101	Autonomous beating rate adaptation in human stem cell-derived cardiomyocytes. Nature Communications, 2016, 7, 10312.	12.8	140
102	Selective differentiation of mammalian bone marrow stromal cells cultured on three-dimensional polymer foams. Journal of Biomedical Materials Research Part B, 2001, 55, 229-235.	3.1	139
103	Potential pathophysiological mechanisms in osteonecrosis of the jaw. Annals of the New York Academy of Sciences, 2011, 1218, 62-79.	3.8	138
104	Distilling complexity to advance cardiac tissue engineering. Science Translational Medicine, 2016, 8, 342ps13.	12.4	138
105	Tissue Engineering: Biomedical Applications. Tissue Engineering, 1995, 1, 151-161.	4.6	135
106	Air-Lift Bioreactors for Algal Growth on Flue Gas:Â Mathematical Modeling and Pilot-Plant Studies. Industrial & Engineering Chemistry Research, 2005, 44, 6154-6163.	3.7	135
107	Biomimetic approach to tissue engineering. Seminars in Cell and Developmental Biology, 2009, 20, 665-673.	5.0	135
108	Engineering custom-designed osteochondral tissue grafts. Trends in Biotechnology, 2008, 26, 181-189.	9.3	133

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109	Biomimetic Platforms for Human Stem Cell Research. Cell Stem Cell, 2011, 8, 252-261.	11.1	133
110	Frontiers in Tissue Engineering. Clinical Orthopaedics and Related Research, 1999, 367, S46-S58.	1.5	131
111	Gel spinning of silk tubes for tissue engineering. Biomaterials, 2008, 29, 4650-4657.	11.4	131
112	Optimization of electrical stimulation parameters for cardiac tissue engineering. Journal of Tissue Engineering and Regenerative Medicine, 2011, 5, e115-e125.	2.7	131
113	Differential gene expression in human, murine, and cell line-derived macrophages upon polarization. Experimental Cell Research, 2016, 347, 1-13.	2.6	131
114	Effects of oxygen on engineered cardiac muscle. Biotechnology and Bioengineering, 2002, 78, 617-625.	3.3	130
115	Optimizing the medium perfusion rate in bone tissue engineering bioreactors. Biotechnology and Bioengineering, 2011, 108, 1159-1170.	3.3	129
116	Physiologic force-frequency response in engineered heart muscle by electromechanical stimulation. Biomaterials, 2015, 60, 82-91.	11.4	128
117	Synovium-derived stem cell-based chondrogenesis. Differentiation, 2008, 76, 1044-1056.	1.9	127
118	Effect of Scaffold Design on Bone MorphologyIn Vitro. Tissue Engineering, 2006, 12, 3417-3429.	4.6	126
119	Can We Engineer a Human Cardiac Patch for Therapy?. Circulation Research, 2018, 123, 244-265.	4.5	121
120	A NOVEL COMPOSITE SCAFFOLD FOR CARDIAC TISSUE ENGINEERING. In Vitro Cellular and Developmental Biology - Animal, 2005, 41, 188.	1.5	120
121	Mechanical Properties and Remodeling of Hybrid Cardiac Constructs Made from Heart Cells, Fibrin, and Biodegradable, Elastomeric Knitted Fabric. Tissue Engineering, 2005, 11, 1122-1132.	4.6	120
122	A photolithographic method to create cellular micropatterns. Biomaterials, 2006, 27, 4755-4764.	11.4	118
123	Nanofabrication and Microfabrication of Functional Materials for Tissue Engineering. Tissue Engineering, 2007, 13, 1867-1877.	4.6	117
124	Osteogenic Differentiation of Human Bone Marrow Stromal Cells on Partially Demineralized Bone Scaffoldsin Vitro. Tissue Engineering, 2004, 10, 81-92.	4.6	114
125	Biomimetic perfusion and electrical stimulation applied in concert improved the assembly of engineered cardiac tissue. Journal of Tissue Engineering and Regenerative Medicine, 2012, 6, e12-e23.	2.7	114
126	Porous silk scaffolds can be used for tissue engineering annulus fibrosus. European Spine Journal, 2007, 16, 1848-1857.	2.2	112

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127	Ingrowth of human mesenchymal stem cells into porous silk particle reinforced silk composite scaffolds: An in vitro study. Acta Biomaterialia, 2011, 7, 144-151.	8.3	112
128	Micro-bioreactor arrays for controlling cellular environments: Design principles for human embryonic stem cell applications. Methods, 2009, 47, 81-89.	3.8	110
129	Controlled release of cytokines using silk-biomaterials for macrophage polarization. Biomaterials, 2015, 73, 272-283.	11.4	110
130	IGF-I and Mechanical Environment Interact to Modulate Engineered Cartilage Development. Biochemical and Biophysical Research Communications, 2001, 286, 909-915.	2.1	109
131	In Vitro Model of Vascularized Bone: Synergizing Vascular Development and Osteogenesis. PLoS ONE, 2011, 6, e28352.	2.5	107
132	Effects of electrical stimulation in C2C12 muscle constructs. Journal of Tissue Engineering and Regenerative Medicine, 2008, 2, 279-287.	2.7	102
133	Engineering of human cardiac muscle electromechanically matured to an adult-like phenotype. Nature Protocols, 2019, 14, 2781-2817.	12.0	101
134	Spatial regulation of human mesenchymal stem cell differentiation in engineered osteochondral constructs: effects of pre-differentiation, soluble factors and medium perfusion. Osteoarthritis and Cartilage, 2010, 18, 714-723.	1.3	99
135	The regulation of growth and metabolism of kidney stem cells with regional specificity using extracellular matrix derived from kidney. Biomaterials, 2013, 34, 9830-9841.	11.4	99
136	Cultivation in Rotating Bioreactors Promotes Maintenance of Cardiac Myocyte Electrophysiology and Molecular Properties. Tissue Engineering, 2003, 9, 1243-1253.	4.6	96
137	Organs-on-a-chip models for biological research. Cell, 2021, 184, 4597-4611.	28.9	96
138	TISSUE ENGINEERING BIOREACTORS. , 2000, , 143-156.		95
139	Bone Morphogenetic Proteins-2, -12, and -13 Modulatein VitroDevelopment of Engineered Cartilage. Tissue Engineering, 2002, 8, 591-601.	4.6	94
140	Biodegradable Fibrous Scaffolds with Tunable Properties Formed from Photo-Cross-Linkable Poly(glycerol sebacate). ACS Applied Materials & Interfaces, 2009, 1, 1878-1886.	8.0	94
141	Micropatterned three-dimensional hydrogel system to study human endothelial-mesenchymal stem cell interactions. Journal of Tissue Engineering and Regenerative Medicine, 2010, 4, 205-215.	2.7	91
142	Surface-patterned electrode bioreactor for electrical stimulation. Lab on A Chip, 2010, 10, 692.	6.0	91
143	Bone scaffold architecture modulates the development of mineralized bone matrix by human embryonic stem cells. Biomaterials, 2012, 33, 8329-8342.	11.4	88
144	Gene Transfer of a Human Insulin-Like Growth Factor I cDNA Enhances Tissue Engineering of Cartilage. Human Gene Therapy, 2002, 13, 1621-1630.	2.7	86

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145	Time-Dependent Processes in Stem Cell-Based Tissue Engineering of Articular Cartilage. Stem Cell Reviews and Reports, 2012, 8, 863-881.	5.6	86
146	Immune modulation as a therapeutic strategy in bone regeneration. Journal of Experimental Orthopaedics, 2015, 2, 1.	1.8	82
147	Electrical stimulation enhances cell migration and integrative repair in the meniscus. Scientific Reports, 2014, 4, 3674.	3.3	82
148	Microfluidic device generating stable concentration gradients for long term cell culture: application to Wnt3a regulation of Î²-catenin signaling. Lab on A Chip, 2010, 10, 3277.	6.0	81
149	Stem cell delivery in tissue-specific hydrogel enabled meniscal repair in an orthotopic rat model. Biomaterials, 2017, 132, 59-71.	11.4	79
150	Concise Review: Personalized Human Bone Grafts for Reconstructing Head and Face. Stem Cells Translational Medicine, 2012, 1, 64-69.	3.3	77
151	Assembly of complex cell microenvironments using geometrically docked hydrogel shapes. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 4551-4556.	7.1	76
152	Tissue-engineered models of human tumors for cancer research. Expert Opinion on Drug Discovery, 2015, 10, 257-268.	5.0	76
153	The influence of hypoxia and IFN-Î³ on the proteome and metabolome of therapeutic mesenchymal stem cells. Biomaterials, 2018, 167, 226-234.	11.4	74
154	From Arteries to Capillaries: Approaches to Engineering Human Vasculature. Advanced Functional Materials, 2020, 30, 1910811.	14.9	74
155	Adjacent tissues (cartilage, bone) affect the functional integration of engineered calf cartilage in vitro. Osteoarthritis and Cartilage, 2005, 13, 129-138.	1.3	72
156	Engineering of Functional Cartilage Tissue Using Stem Cells from Synovial Lining: A Preliminary Study. Clinical Orthopaedics and Related Research, 2008, 466, 1880-1889.	1.5	72
157	Geometric control of human stem cell morphology and differentiation. Integrative Biology (United) Tj ETQq1 1 0.784314 rgBT /Overlock	1.3	72
158	Functional vascularized lung grafts for lung bioengineering. Science Advances, 2017, 3, e1700521.	10.3	72
159	Growth factor induced fibroblast differentiation from human bone marrow stromal cells in vitro. Journal of Orthopaedic Research, 2005, 23, 164-174.	2.3	71
160	Size-based microfluidic enrichment of neonatal rat cardiac cell populations. Biomedical Microdevices, 2006, 8, 231-237.	2.8	71
161	The effect of controlled expression of VEGF by transduced myoblasts in a cardiac patch on vascularization in a mouse model of myocardial infarction. Biomaterials, 2013, 34, 393-401.	11.4	71
162	Biomimetic Approaches for Bone Tissue Engineering. Tissue Engineering - Part B: Reviews, 2017, 23, 480-493.	4.8	69

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163	Integrated human organ-on-a-chip model for predictive studies of anti-tumor drug efficacy and cardiac safety. Lab on A Chip, 2020, 20, 4357-4372.	6.0	69
164	Recapitulating the Size and Cargo of Tumor Exosomes in a Tissue-Engineered Model. Theranostics, 2016, 6, 1119-1130.	10.0	68
165	HeLiVa platform: integrated heart-liver-vascular systems for drug testing in human health and disease. Stem Cell Research and Therapy, 2013, 4, S8.	5.5	67
166	Bioengineered human tumor within a bone niche. Biomaterials, 2014, 35, 5785-5794.	11.4	67
167	Modeling tumor microenvironments using custom-designed biomaterial scaffolds. Current Opinion in Chemical Engineering, 2016, 11, 94-105.	7.8	66
168	Translation from Research to Applications. Tissue Engineering, 2006, 12, 3341-3364.	4.6	65
169	Perfusion seeding of channeled elastomeric scaffolds with myocytes and endothelial cells for cardiac tissue engineering. Biotechnology Progress, 2010, 26, 565-572.	2.6	65
170	Macrophages Modulate Engineered Human Tissues for Enhanced Vascularization and Healing. Annals of Biomedical Engineering, 2015, 43, 616-627.	2.5	64
171	Tissue Engineering and Regenerative Medicine 2015: A Year in Review. Tissue Engineering - Part B: Reviews, 2016, 22, 101-113.	4.8	64
172	Enhancing annulus fibrosus tissue formation in porous silk scaffolds. Journal of Biomedical Materials Research - Part A, 2010, 92A, 43-51.	4.0	63
173	Rhizopus arrhizus lipase-catalyzed interesterification of the midfraction of palm oil to a cocoa butter equivalent fat. Enzyme and Microbial Technology, 1993, 15, 438-443.	3.2	62
174	Scaffold stiffness affects the contractile function of threeâ€dimensional engineered cardiac constructs. Biotechnology Progress, 2010, 26, 1382-1390.	2.6	62
175	Heterogeneous engineered cartilage growth results from gradients of media-supplemented active TGF-Î² and is ameliorated by the alternative supplementation of latent TGF-Î². Biomaterials, 2016, 77, 173-185.	11.4	62
176	Alternative direct stem cell derivatives defined by stem cell location and graded Wnt signalling. Nature Cell Biology, 2017, 19, 433-444.	10.3	58
177	Tissue-engineered hypertrophic chondrocyte grafts enhanced long bone repair. Biomaterials, 2017, 139, 202-212.	11.4	58
178	Biophysical regulation during cardiac development and application to tissue engineering. International Journal of Developmental Biology, 2006, 50, 233-243.	0.6	57
179	Effects of chondrogenic and osteogenic regulatory factors on composite constructs grown using human mesenchymal stem cells, silk scaffolds and bioreactors. Journal of the Royal Society Interface, 2008, 5, 929-939.	3.4	57
180	Geometry and force control of cell function. Journal of Cellular Biochemistry, 2009, 108, 1047-1058.	2.6	57

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181	In Vitro Mesenchymal Trilineage Differentiation and Extracellular Matrix Production by Adipose and Bone Marrow Derived Adult Equine Multipotent Stromal Cells on a Collagen Scaffold. Stem Cell Reviews and Reports, 2013, 9, 858-872.	5.6	57
182	Xenogeneic cross-circulation for extracorporeal recovery of injured human lungs. Nature Medicine, 2020, 26, 1102-1113.	30.7	56
183	Bioengineering methods for myocardial regeneration. Advanced Drug Delivery Reviews, 2016, 96, 195-202.	13.7	55
184	Non-Invasive Time-Lapsed Monitoring and Quantification of Engineered Bone-Like Tissue. Annals of Biomedical Engineering, 2007, 35, 1657-1667.	2.5	54
185	Bioreactor engineering of stem cell environments. Biotechnology Advances, 2013, 31, 1020-1031.	11.7	53
186	The Current Status of iPS Cells in Cardiac Research and Their Potential for Tissue Engineering and Regenerative Medicine. Stem Cell Reviews and Reports, 2014, 10, 177-190.	5.6	53
187	Optical Mapping of Impulse Propagation in Engineered Cardiac Tissue. Tissue Engineering - Part A, 2009, 15, 851-860.	3.1	52
188	Microgravity Studies of Cells and Tissues. Annals of the New York Academy of Sciences, 2002, 974, 504-517.	3.8	51
189	Microfluidic bioreactor for dynamic regulation of early mesodermal commitment in human pluripotent stem cells. Lab on A Chip, 2013, 13, 355-364.	6.0	51
190	Chondrogenic properties of collagen type XI, a component of cartilage extracellular matrix. Biomaterials, 2018, 173, 47-57.	11.4	51
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