William L Murphy

List of Publications by Year
in descending order

104 papers	5,243 citations	116194 36 h-index	107981 68 g-index
106 all docs	106 docs citations	106 times ranked	9199 citing authors

#	Article	IF	Citations
1	VEGF-attenuated platelet-rich plasma improves therapeutic effect on cartilage repair. Biomaterials Science, 2022, 10, 2172-2181.	2.6	8
2	Receptor mimicking TGF-Î²1 binding peptide for targeting TGF-Î²1 signaling. Biomaterials Science, 2021, 9, 645-652.	2.6	2
3	Controlled Aggregation Enhances Immunomodulatory Potential of Mesenchymal Stromal Cell Aggregates. Stem Cells Translational Medicine, 2021, 10, 1184-1201.	1.6	16
4	3D iPSC modeling of the retinal pigment epithelium-choriocapillaris complex identifies factors involved in the pathology of macular degeneration. Cell Stem Cell, 2021, 28, 846-862.e8.	5.2	30
5	Biominerals for biomacromolecule stabilization and delivery. Microscopy and Microanalysis, 2021, 27, 64-64.	0.2	0
6	Xeno-Free Bioreactor Culture of Human Mesenchymal Stromal Cells on Chemically Defined Microcarriers. ACS Biomaterials Science and Engineering, 2021, 7, 617-625.	2.6	8
7	Polymer-Coated Magnetic Microspheres Conjugated with Growth Factor Receptor Binding Peptides Enable Cell Sorting. ACS Biomaterials Science and Engineering, 2021, 7, 5927-5932.	2.6	3
8	Synthetic alternatives to Matrigel. Nature Reviews Materials, 2020, 5, 539-551.	23.3	498
9	Single-dose mRNA therapy via biomaterial-mediated sequestration of overexpressed proteins. Science Advances, 2020, 6, .	4.7	24
10	Engineered Perineural Vascular Plexus for Modeling Developmental Toxicity. Advanced Healthcare Materials, 2020, 9, e2000825.	3.9	14
11	Sustained release and protein stabilization reduce the growth factor dosage required for human pluripotent stem cell expansion. Biomaterials, 2020, 248, 120007.	5.7	17
12	3-D culture and endothelial cells improve maturity of human pluripotent stem cell-derived hepatocytes. Acta Biomaterialia, 2019, 95, 371-381.	4.1	57
13	Mineral-Coated Microparticles Enhance mRNA-Based Transfection of Human Bone Marrow Cells. Molecular Therapy - Nucleic Acids, 2019, 18, 455-464.	2.3	14
14	Evaluation of PEG-Based Hydrogel Influence on Estrogen-Receptor-Driven Responses in MCF7 Breast Cancer Cells. ACS Biomaterials Science and Engineering, 2019, 5, 6089-6098.	2.6	13
15	Neurovascular Organotypic Culture Models Using Induced Pluripotent Stem Cells to Assess Adverse Chemical Exposure Outcomes. Applied in Vitro Toxicology, 2019, 5, 92-110.	0.6	4
16	Assessment of Drug-Induced Toxicity Biomarkers in the Brain Microphysiological System (MPS) Using Targeted and Untargeted Molecular Profiling. Frontiers in Big Data, 2019, 2, 23.	1.8	10
17	Injectable biomaterials for delivery of interleukin-1 receptor antagonist: Toward improving its therapeutic effect. Acta Biomaterialia, 2019, 93, 123-134.	4.1	14
18	A microparticle approach for non-viral gene delivery within 3D human mesenchymal stromal cell aggregates. Acta Biomaterialia, 2019, 95, 408-417.	4.1	13

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19	Sustained interleukin-10 delivery reduces inflammation and improves motor function after spinal cord injury. Journal of Neuroinflammation, 2019, 16, 93.	3.1	54
20	VEGFâ€loaded mineralâ€coated microparticles improve bone repair and are associated with increased expression of epo and RUNXâ€2 in murine nonâ€unions. Journal of Orthopaedic Research, 2019, 37, 821-831.	1.2	20
21	A Reliable and Reproducible Critical-Sized Segmental Femoral Defect Model in Rats Stabilized with a Custom External Fixator. Journal of Visualized Experiments, 2019, , .	0.2	3
22	Quantitative Labelâ€Free Imaging of 3D Vascular Networks Selfâ€Assembled in Synthetic Hydrogels. Advanced Healthcare Materials, 2019, 8, e1801186.	3.9	15
23	Synthetic, Chemically Defined Polymerâ€Coated Microcarriers for the Expansion of Human Mesenchymal Stem Cells. Macromolecular Bioscience, 2019, 19, e1800299.	2.1	15
24	Dynamic, Bioresponsive Hydrogels via Changes in DNA Aptamer Conformation. Macromolecular Bioscience, 2019, 19, 1800353.	2.1	11
25	Engineered biomaterials to mitigate growth factor cost in cell biomanufacturing. Current Opinion in Biomedical Engineering, 2019, 10, 1-10.	1.8	19
26	Combination of Heparin Binding Peptide and Heparin Cell Surface Coatings for Mesenchymal Stem Cell Spheroid Assembly. Bioconjugate Chemistry, 2018, 29, 878-884.	1.8	5
27	Dual non-viral gene delivery from microparticles within 3D high-density stem cell constructs for enhanced bone tissue engineering. Biomaterials, 2018, 161, 240-255.	5.7	46
28	Bioengineering Solutions for Manufacturing Challenges in CAR T Cells. Biotechnology Journal, 2018, 13, 1700095.	1.8	56
29	Customizable biomaterials as tools for advanced anti-angiogenic drug discovery. Biomaterials, 2018, 181, 53-66.	5.7	4
30	Microparticles Locally Deliver Active Interleukinâ€1 Receptor Antagonist In Vivo. Advanced Healthcare Materials, 2018, 7, e1800263.	3.9	11
31	Addition of Mineralâ€Coated Microparticles to Soluble Interleukinâ€1 Receptor Antagonist Injected Subcutaneously Improves and Extends Systemic Interleukinâ€1 Inhibition. Advanced Therapeutics, 2018, 1, 1800048.	1.6	5
32	Two Methods for Decellularization of Plant Tissues for Tissue Engineering Applications. Journal of Visualized Experiments, 2018, , .	0.2	30
33	Immune modulation with primed mesenchymal stem cells delivered via biodegradable scaffold to repair an Achilles tendon segmental defect. Journal of Orthopaedic Research, 2017, 35, 269-280.	1.2	59
34	Restenosis Inhibition and Re-differentiation of TGFÎ²/Smad3-activated Smooth Muscle Cells by Resveratrol. Scientific Reports, 2017, 7, 41916.	1.6	20
35	Mineral binding peptides with enhanced binding stability in serum. Biomaterials Science, 2017, 5, 663-668.	2.6	4
36	Crossing kingdoms: Using decellularized plants as perfusable tissue engineering scaffolds. Biomaterials, 2017, 125, 13-22.	5.7	264

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37	Levelâ€specific amputations and resulting regenerative outcomes in the mouse distal phalanx. Wound Repair and Regeneration, 2017, 25, 443-453.	1.5	16
38	Microcarriers with Synthetic Hydrogel Surfaces for Stem Cell Expansion. Advanced Healthcare Materials, 2017, 6, 1700072.	3.9	37
39	Decellularized Plants: Biofunctionalized Plants as Diverse Biomaterials for Human Cell Culture (Adv.) Tj ETQq1 1 0.784314 rgBT /Overlo	3.9	1
40	Uniform neural tissue models produced on synthetic hydrogels using standard culture techniques. Experimental Biology and Medicine, 2017, 242, 1679-1689.	1.1	31
41	Specific recruitment of circulating angiogenic cells using biomaterials as filters. Acta Biomaterialia, 2017, 56, 65-79.	4.1	6
42	A Genome-wide Analysis of Human Pluripotent Stem Cell-Derived Endothelial Cells in 2D or 3D Culture. Stem Cell Reports, 2017, 8, 907-918.	2.3	41
43	Biofunctionalized Plants as Diverse Biomaterials for Human Cell Culture. Advanced Healthcare Materials, 2017, 6, 1601225.	3.9	82
44	Microstructural control of modular peptide release from microporous biphasic calcium phosphate. Materials Science and Engineering C, 2017, 72, 268-277.	3.8	6
45	Controlled Self-assembly of Stem Cell Aggregates Instructs Pluripotency and Lineage Bias. Scientific Reports, 2017, 7, 14070.	1.6	31
46	Functionalization of microparticles with mineral coatings enhances non-viral transfection of primary human cells. Scientific Reports, 2017, 7, 14211.	1.6	19
47	Nanostructured Mineral Coatings Stabilize Proteins for Therapeutic Delivery. Advanced Materials, 2017, 29, 1701255.	11.1	53
48	Functional characterization of human pluripotent stem cell-derived arterial endothelial cells. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E6072-E6078.	3.3	105
49	Versatile synthetic alternatives to Matrigel for vascular toxicity screening and stem cell expansion. Nature Biomedical Engineering, 2017, 1, .	11.6	86
50	Impacts of Interleukin-17 Neutralization on the Inflammatory Response in a Healing Ligament. Journal of Cytokine Biology, 2017, 02, .	1.5	1
51	Sustained release of neurotrophinâ€3 via calcium phosphateâ€coated sutures promotes axonal regeneration after spinal cord injury. Journal of Neuroscience Research, 2016, 94, 645-652.	1.3	18
52	Human iPSC-derived endothelial cell sprouting assay in synthetic hydrogel arrays. Acta Biomaterialia, 2016, 39, 12-24.	4.1	27
53	Orthosilicic acid, Si(OH)4, stimulates osteoblast differentiation in vitro by upregulating miR-146a to antagonize NF-ÎºB activation. Acta Biomaterialia, 2016, 39, 192-202.	4.1	59
54	Surface functionalization and dynamics of polymeric cell culture substrates. Current Opinion in Biotechnology, 2016, 40, 164-169.	3.3	15

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55	Peptide Conjugation to a Polymer Coating via Native Chemical Ligation of Azlactones for Cell Culture. Biomacromolecules, 2016, 17, 1040-1047.	2.6	25
56	Differential regulation of angiogenesis using degradable VEGF-binding microspheres. Biomaterials, 2016, 93, 27-37.	5.7	23
57	Stable engineered vascular networks from human induced pluripotent stem cell-derived endothelial cells cultured in synthetic hydrogels. Acta Biomaterialia, 2016, 35, 32-41.	4.1	86
58	Controlled Dual Growth Factor Delivery From Microparticles Incorporated Within Human Bone Marrow-Derived Mesenchymal Stem Cell Aggregates for Enhanced Bone Tissue Engineering via Endochondral Ossification. Stem Cells Translational Medicine, 2016, 5, 206-217.	1.6	80
59	Guiding Chondrogenesis and Osteogenesis with Mineral-Coated Hydroxyapatite and BMP-2 Incorporated within High-Density hMSC Aggregates for Bone Regeneration. ACS Biomaterials Science and Engineering, 2016, 2, 30-42.	2.6	40
60	Mineral particles modulate osteo-chondrogenic differentiation of embryonic stem cell aggregates. Acta Biomaterialia, 2016, 29, 42-51.	4.1	25
61	Hydrogel arrays formed via differential wettability patterning enable combinatorial screening of stem cell behavior. Acta Biomaterialia, 2016, 34, 93-103.	4.1	37
62	Human Induced Pluripotent Stem Cell Derived Neuronal Cells Cultured on Chemically-Defined Hydrogels for Sensitive In Vitro Detection of Botulinum Neurotoxin. Scientific Reports, 2015, 5, 14566.	1.6	26
63	Polyethylene Glycol Coatings on Plastic Substrates for Chemically Defined Stem Cell Culture. Advanced Healthcare Materials, 2015, 4, 1555-1564.	3.9	23
64	Spatially Organized Differentiation of Mesenchymal Stem Cells within Biphasic Microparticleâ€incorporated High Cell Density Osteochondral Tissues. Advanced Healthcare Materials, 2015, 4, 2306-2313.	3.9	29
65	Targeting diverse proteinâ€“protein interaction interfaces with Î±/Î²-peptides derived from the Z-domain scaffold. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4552-4557.	3.3	93
66	How does the pathophysiological context influence delivery of bone growth factors?. Advanced Drug Delivery Reviews, 2015, 84, 68-84.	6.6	21
67	InÂVivo Measures of Shear Wave Speed as a Predictor of Tendon Elasticity and Strength. Ultrasound in Medicine and Biology, 2015, 41, 2722-2730.	0.7	40
68	Human pluripotent stem cell-derived neural constructs for predicting neural toxicity. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 12516-12521.	3.3	288
69	Î±/Î²-Peptide Foldamers Targeting Intracellular Proteinâ€“Protein Interactions with Activity in Living Cells. Journal of the American Chemical Society, 2015, 137, 11365-11375.	6.6	101
70	Cationic Peptide Exposure Enhances Pulsed-Electric-Field-Mediated Membrane Disruption. PLoS ONE, 2014, 9, e92528.	1.1	14
71	Differential effects of cell adhesion, modulus and VEGFR-2 inhibition on capillary network formation in synthetic hydrogel arrays. Biomaterials, 2014, 35, 2149-2161.	5.7	62
72	Multilayered Inorganic Microparticles for Tunable Dual Growth Factor Delivery. Advanced Functional Materials, 2014, 24, 3082-3093.	7.8	81

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73	A rapamycin-releasing perivascular polymeric sheath produces highly effective inhibition of intimal hyperplasia. Journal of Controlled Release, 2014, 191, 47-53.	4.8	34
74	Materials as stem cell regulators. Nature Materials, 2014, 13, 547-557.	13.3	794
75	3-D scaffold platform for optimized non-viral transfection of multipotent stem cells. Journal of Materials Chemistry B, 2014, 2, 8186-8193.	2.9	13
76	Design of growth factor sequestering biomaterials. Chemical Communications, 2014, 50, 15651-15668.	2.2	89
77	Biomaterial arrays with defined adhesion ligand densities and matrix stiffness identify distinct phenotypes for tumorigenic and non-tumorigenic human mesenchymal cell types. Biomaterials Science, 2014, 2, 745-756.	2.6	44
78	Substratum-induced differentiation of human pluripotent stem cells reveals the coactivator YAP is a potent regulator of neuronal specification. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13805-13810.	3.3	153
79	Context Clues: The Importance of Stem Cellâ€“Material Interactions. ACS Chemical Biology, 2014, 9, 45-56.	1.6	30
80	Controlled Multiple Growth Factor Delivery from Bone Tissue Engineering Scaffolds via Designed Affinity. Tissue Engineering - Part A, 2014, 20, 2077-2087.	1.6	52
81	Specific VEGF sequestering to biomaterials: Influence of serum stability. Acta Biomaterialia, 2013, 9, 8823-8831.	4.1	23
82	Crystal structures of CaSiO3 polymorphs control growth and osteogenic differentiation of human mesenchymal stem cells on bioceramic surfaces. Biomaterials Science, 2013, 1, 1101.	2.6	31
83	High Affinity Binding of an Engineered, Modular Peptide to Bone Tissue. Molecular Pharmaceutics, 2013, 10, 2086-2090.	2.3	19
84	Characterization of Thiolâ€Ene Crosslinked PEG Hydrogels. Macromolecular Materials and Engineering, 2013, 298, 699-703.	1.7	33
85	Inorganic coatings for optimized non-viral transfection of stem cells. Scientific Reports, 2013, 3, 1567.	1.6	38
86	A Quantitative Comparison of Human HT-1080 Fibrosarcoma Cells and Primary Human Dermal Fibroblasts Identifies a 3D Migration Mechanism with Properties Unique to the Transformed Phenotype. PLoS ONE, 2013, 8, e81689.	1.1	32
87	Combinatorial screening of chemically defined human mesenchymal stem cell culture substrates. Journal of Materials Chemistry, 2012, 22, 19474.	6.7	25
88	The effect of mineral coating morphology on mesenchymal stem cell attachment and expansion. Journal of Materials Chemistry, 2012, 22, 25288.	6.7	23
89	Coating with a Modular Bone Morphogenetic Peptide Promotes Healing of a Bone-Implant Gap in an Ovine Model. PLoS ONE, 2012, 7, e50378.	1.1	35
90	Regulating Specific Growth Factor Signaling Using Immobilized Branched Ligands. Advanced Healthcare Materials, 2012, 1, 457-460.	3.9	17

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91	Mineral coatings modulate Î²-TCP stability and enable growth factor binding and release. Acta Biomaterialia, 2012, 8, 1117-1124.	4.1	33
92	Controllable mineral coatings on PCL scaffolds as carriers for growth factor release. Biomaterials, 2012, 33, 713-721.	5.7	87
93	Specific VEGF sequestering and release using peptide-functionalized hydrogel microspheres. Biomaterials, 2012, 33, 3475-3484.	5.7	77
94	Emerging area: biomaterials that mimic and exploit protein motion. Soft Matter, 2011, 7, 3679.	1.2	17
95	Chemically well-defined self-assembled monolayers for cell culture: toward mimicking the natural ECM. Soft Matter, 2011, 7, 9561.	1.2	66
96	Mineral Coatings for Temporally Controlled Delivery of Multiple Proteins. Advanced Materials, 2011, 23, 4279-4284.	11.1	60
97	Tissue Engineering: Mineral Coatings for Temporally Controlled Delivery of Multiple Proteins (Adv.) Tj ETQq1 1 0.784314 rgBT /Overlo	11.1	3
98	A Modular, Hydroxyapatiteâ€Binding Version of Vascular Endothelial Growth Factor. Advanced Materials, 2010, 22, 5494-5498.	11.1	54
99	Tissue Engineering: A Modular, Hydroxyapatite-Binding Version of Vascular Endothelial Growth Factor (Adv. Mater. 48/2010). Advanced Materials, 2010, 22, 5436-5436.	11.1	1
100	Modular peptides promote human mesenchymal stem cell differentiation on biomaterial surfaces. Acta Biomaterialia, 2010, 6, 21-28.	4.1	82
101	Controllable protein delivery from coated surgical sutures. Journal of Materials Chemistry, 2010, 20, 8894.	6.7	34
102	Mineralâ€Coated Polymer Microspheres for Controlled Protein Binding and Release. Advanced Materials, 2009, 21, 1960-1963.	11.1	63
103	Self-Assembling Biomaterials. Acta Biomaterialia, 2009, 5, 803-804.	4.1	1
104	Growth of Hydroxyapatite Coatings on Biodegradable Polymer Microspheres. ACS Applied Materials & Interfaces, 2009, 1, 1504-1511.	4.0	65