David G Belair

List of Publications by Year
in descending order

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68 papers	4,123 citations	126907 33 h-index	114465 63 g-index
68 all docs	68 docs citations	68 times ranked	6621 citing authors

#	Article	IF	Citations
1	Materials as stem cell regulators. Nature Materials, 2014, 13, 547-557.	27.5	794
2	Synthetic alternatives to Matrigel. Nature Reviews Materials, 2020, 5, 539-551.	48.7	498
3	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.	7.1	288
4	Biomaterials that Regulate Growth Factor Activity via Bioinspired Interactions. Advanced Functional Materials, 2011, 21, 1754-1768.	14.9	138
5	Human Vascular Tissue Models Formed from Human Induced Pluripotent Stem Cell Derived Endothelial Cells. Stem Cell Reviews and Reports, 2015, 11, 511-525.	5.6	107
6	Î±/Î²-Peptide Foldamers Targeting Intracellular Proteinâ€“Protein Interactions with Activity in Living Cells. Journal of the American Chemical Society, 2015, 137, 11365-11375.	13.7	101
7	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.	7.1	93
8	Extending Foldamer Design beyond Î±-Helix Mimicry: Î±/Î²-Peptide Inhibitors of Vascular Endothelial Growth Factor Signaling. Journal of the American Chemical Society, 2012, 134, 7652-7655.	13.7	92
9	Design of growth factor sequestering biomaterials. Chemical Communications, 2014, 50, 15651-15668.	4.1	89
10	Controllable mineral coatings on PCL scaffolds as carriers for growth factor release. Biomaterials, 2012, 33, 713-721.	11.4	87
11	Stable engineered vascular networks from human induced pluripotent stem cell-derived endothelial cells cultured in synthetic hydrogels. Acta Biomaterialia, 2016, 35, 32-41.	8.3	86
12	Versatile synthetic alternatives to Matrigel for vascular toxicity screening and stem cell expansion. Nature Biomedical Engineering, 2017, 1, .	22.5	86
13	Multilayered Inorganic Microparticles for Tunable Dual Growth Factor Delivery. Advanced Functional Materials, 2014, 24, 3082-3093.	14.9	81
14	Using â€œClickâ€•Chemistry to Prepare SAM Substrates to Study Stem Cell Adhesion. Langmuir, 2009, 25, 5737-5746.	3.5	78
15	Specific VEGF sequestering and release using peptide-functionalized hydrogel microspheres. Biomaterials, 2012, 33, 3475-3484.	11.4	77
16	Chemically well-defined self-assembled monolayers for cell culture: toward mimicking the natural ECM. Soft Matter, 2011, 7, 9561.	2.7	66
17	Differential effects of cell adhesion, modulus and VEGFR-2 inhibition on capillary network formation in synthetic hydrogel arrays. Biomaterials, 2014, 35, 2149-2161.	11.4	62
18	Harnessing endogenous growth factor activity modulates stem cell behavior. Integrative Biology (United Kingdom), 2011, 3, 832.	1.3	59

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19	Immobilization of Peptides with Distinct Biological Activities onto Stem Cell Culture Substrates Using Orthogonal Chemistries. Langmuir, 2010, 26, 6449-6456.	3.5	56
20	Surfaces That Sequester Serumâ€Borne Heparin Amplify Growth Factor Activity. Advanced Materials, 2011, 23, 5415-5418.	21.0	56
21	Bioengineering Solutions for Manufacturing Challenges in CAR T Cells. Biotechnology Journal, 2018, 13, 1700095.	3.5	56
22	Nanostructured Mineral Coatings Stabilize Proteins for Therapeutic Delivery. Advanced Materials, 2017, 29, 1701255.	21.0	53
23	Sustained plasmid DNA release from dissolving mineral coatings. Acta Biomaterialia, 2010, 6, 3426-3435.	8.3	48
24	Patterning Discrete Stem Cell Culture Environments via Localized Self-Assembled Monolayer Replacement. Langmuir, 2009, 25, 12825-12834.	3.5	47
25	Dual non-viral gene delivery from microparticles within 3D high-density stem cell constructs for enhanced bone tissue engineering. Biomaterials, 2018, 161, 240-255.	11.4	46
26	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.	5.4	44
27	Patterned Selfâ€Assembled Monolayers: Efficient, Chemically Defined Tools for Cell Biology. ChemBioChem, 2012, 13, 1717-1724.	2.6	43
28	A Genome-wide Analysis of Human Pluripotent Stem Cell-Derived Endothelial Cells in 2D or 3D Culture. Stem Cell Reports, 2017, 8, 907-918.	4.8	41
29	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.	5.2	40
30	Inorganic coatings for optimized non-viral transfection of stem cells. Scientific Reports, 2013, 3, 1567.	3.3	38
31	Hydrogel arrays formed via differential wettability patterning enable combinatorial screening of stem cell behavior. Acta Biomaterialia, 2016, 34, 93-103.	8.3	37
32	Microcarriers with Synthetic Hydrogel Surfaces for Stem Cell Expansion. Advanced Healthcare Materials, 2017, 6, 1700072.	7.6	37
33	Micropatterning of 3D Microenvironments for Living Biosensor Applications. Biosensors, 2014, 4, 28-44.	4.7	34
34	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.	2.5	32
35	Differential effects of a soluble or immobilized VEGFR-binding peptide. Integrative Biology (United) Tj ETQq1 1 0.784314 rgBT /Overlo	1.3	30
36	Context Clues: The Importance of Stem Cellâ€“Material Interactions. ACS Chemical Biology, 2014, 9, 45-56.	3.4	30

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37	Human iPSC-derived endothelial cell sprouting assay in synthetic hydrogel arrays. Acta Biomaterialia, 2016, 39, 12-24.	8.3	27
38	Characterizing cleft palate toxicants using ToxCast data, chemical structure, and the biomedical literature. Birth Defects Research, 2020, 112, 19-39.	1.5	26
39	Combinatorial screening of chemically defined human mesenchymal stem cell culture substrates. Journal of Materials Chemistry, 2012, 22, 19474.	6.7	25
40	Thalidomide Inhibits Human iPSC Mesendoderm Differentiation by Modulating CRBN-dependent Degradation of SALL4. Scientific Reports, 2020, 10, 2864.	3.3	24
41	Specific VEGF sequestering to biomaterials: Influence of serum stability. Acta Biomaterialia, 2013, 9, 8823-8831.	8.3	23
42	Polyethylene Glycol Coatings on Plastic Substrates for Chemically Defined Stem Cell Culture. Advanced Healthcare Materials, 2015, 4, 1555-1564.	7.6	23
43	Differential regulation of angiogenesis using degradable VEGF-binding microspheres. Biomaterials, 2016, 93, 27-37.	11.4	23
44	Serum-Dependence of Affinity-Mediated VEGF Release from Biomimetic Microspheres. Biomacromolecules, 2014, 15, 2038-2048.	5.4	21
45	How does the pathophysiological context influence delivery of bone growth factors?. Advanced Drug Delivery Reviews, 2015, 84, 68-84.	13.7	21
46	Functionalization of microparticles with mineral coatings enhances non-viral transfection of primary human cells. Scientific Reports, 2017, 7, 14211.	3.3	19
47	Engineered biomaterials to mitigate growth factor cost in cell biomanufacturing. Current Opinion in Biomedical Engineering, 2019, 10, 1-10.	3.4	19
48	A chemically-defined screening platform reveals behavioral similarities between primary human mesenchymal stem cells and endothelial cells. Integrative Biology (United Kingdom), 2012, 4, 1508-1521.	1.3	18
49	A Three-Dimensional Organoid Culture Model to Assess the Influence of Chemicals on Morphogenetic Fusion. Toxicological Sciences, 2018, 166, 394-408.	3.1	18
50	Regulating Specific Growth Factor Signaling Using Immobilized Branched Ligands. Advanced Healthcare Materials, 2012, 1, 457-460.	7.6	17
51	Engineering human cell spheroids to model embryonic tissue fusion in vitro. PLoS ONE, 2017, 12, e0184155.	2.5	17
52	Human ileal organoid model recapitulates clinical incidence of diarrhea associated with small molecule drugs. Toxicology in Vitro, 2020, 68, 104928.	2.4	17
53	Quantitative Labelâ€Free Imaging of 3D Vascular Networks Selfâ€Assembled in Synthetic Hydrogels. Advanced Healthcare Materials, 2019, 8, e1801186.	7.6	15
54	A dimensionless variable for the scale up and transfer of a roller compaction formulation. Drug Development and Industrial Pharmacy, 2016, 42, 60-69.	2.0	14

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55	Engineered Perineural Vascular Plexus for Modeling Developmental Toxicity. Advanced Healthcare Materials, 2020, 9, e2000825.	7.6	14
56	3-D scaffold platform for optimized non-viral transfection of multipotent stem cells. Journal of Materials Chemistry B, 2014, 2, 8186-8193.	5.8	13
57	A microparticle approach for non-viral gene delivery within 3D human mesenchymal stromal cell aggregates. Acta Biomaterialia, 2019, 95, 408-417.	8.3	13
58	Development of an organotypic stem cell model for the study of human embryonic palatal fusion. Birth Defects Research, 2018, 110, 1322-1334.	1.5	9
59	Customized hydrogel substrates for serum-free expansion of functional hMSCs. Biomaterials Science, 2020, 8, 3819-3829.	5.4	8
60	Xeno-Free Bioreactor Culture of Human Mesenchymal Stromal Cells on Chemically Defined Microcarriers. ACS Biomaterials Science and Engineering, 2021, 7, 617-625.	5.2	8
61	VEGF-attenuated platelet-rich plasma improves therapeutic effect on cartilage repair. Biomaterials Science, 2022, 10, 2172-2181.	5.4	8
62	Engineering epithelial-stromal interactions in vitro for toxicology assessment. Toxicology, 2017, 382, 93-107.	4.2	7
63	Leveraging microphysiological systems to address challenges encountered during development of oligonucleotide therapeutics. ALTEX: Alternatives To Animal Experimentation, 2021, , .	1.5	7
64	Regulating VEGF signaling in platelet concentrates via specific VEGF sequestering. Biomaterials Science, 2016, 4, 819-825.	5.4	6
65	Customizable biomaterials as tools for advanced anti-angiogenic drug discovery. Biomaterials, 2018, 181, 53-66.	11.4	4
66	Neurovascular Organotypic Culture Models Using Induced Pluripotent Stem Cells to Assess Adverse Chemical Exposure Outcomes. Applied in Vitro Toxicology, 2019, 5, 92-110.	1.1	4
67	Investigation Into the Role of ERK in Tyrosine Kinase Inhibitor-Induced Neuropathy. Toxicological Sciences, 2021, 181, 160-174.	3.1	3
68	Receptor mimicking TGF-Î²1 binding peptide for targeting TGF-Î²1 signaling. Biomaterials Science, 2021, 9, 645-652.	5.4	2