Aleksander S Popel

List of Publications by Year
in descending order

314	14,110	18436 62	34900 98
papers	citations	h-index	g-index

322	322	322	12516
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	MICROCIRCULATION AND HEMORHEOLOGY. Annual Review of Fluid Mechanics, 2005, 37, 43-69.	10.8	674
2	A theoretical analysis of the effect of the particulate nature of blood on oxygen release in capillaries. Microvascular Research, 1986, 32, 164-189.	1.1	252
3	Extracellular regulation of VEGF: Isoforms, proteolysis, and vascular patterning. Cytokine and Growth Factor Reviews, 2014, 25, 1-19.	3.2	248
4	Where is VEGF in the body? A meta-analysis of VEGF distribution in cancer. British Journal of Cancer, 2007, 97, 978-985.	2.9	237
5	Red blood cell aggregation and dissociation in shear flows simulated by lattice Boltzmann method. Journal of Biomechanics, 2008, 41, 47-55.	0.9	225
6	Nitric Oxide in the Vasculature: Where Does It Come From and Where Does It Go? A Quantitative Perspective. Antioxidants and Redox Signaling, 2008, 10, 1185-1198.	2.5	209
7	Blood Flow and Cell-Free Layer in Microvessels. Microcirculation, 2010, 17, 615-628.	1.0	207
8	Impaired Angiogenesis After Hindlimb Ischemia in Type 2 Diabetes Mellitus. Circulation Research, 2007, 101, 948-956.	2.0	192
9	Effect of erythrocyte aggregation on velocity profiles in venules. American Journal of Physiology - Heart and Circulatory Physiology, 2001, 280, H222-H236.	1.5	186
10	Effects of erythrocyte deformability and aggregation on the cell free layer and apparent viscosity of microscopic blood flows. Microvascular Research, 2009, 77, 265-272.	1.1	185
11	A Computational Study of the Effect of Capillary Network Anastomoses and Tortuosity on Oxygen Transport. Journal of Theoretical Biology, 2000, 206, 181-194.	0.8	183
12	Reactive Oxygen Species Regulate Hypoxia-Inducible Factor 1Î± Differentially in Cancer and Ischemia. Molecular and Cellular Biology, 2008, 28, 5106-5119.	1.1	167
13	An immersed boundary lattice Boltzmann approach to simulate deformable liquid capsules and its application to microscopic blood flows. Physical Biology, 2007, 4, 285-295.	0.8	161
14	A systems biology perspective on sVEGFR1: its biological function, pathogenic role and therapeutic use. Journal of Cellular and Molecular Medicine, 2010, 14, 528-552.	1.6	161
15	Breast cancer cells condition lymphatic endothelial cells within pre-metastatic niches to promote metastasis. Nature Communications, 2014, 5, 4715.	5.8	154
16	A Membrane Bending Model of Outer Hair Cell Electromotility. Biophysical Journal, 2000, 78, 2844-2862.	0.2	148
17	Micro- and Nanomechanics of the Cochlear Outer Hair Cell. Annual Review of Biomedical Engineering, 2001, 3, 169-194.	5.7	146
18	Computational Fluid Dynamic Simulation of Aggregation of Deformable Cells in a Shear Flow. Journal of Biomechanical Engineering, 2005, 127, 1070.	0.6	143

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19	Systems Biology of Vascular Endothelial Growth Factors. Microcirculation, 2008, 15, 715-738.	1.0	141
20	Temporal and spatial variations of cell-free layer width in arterioles. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 293, H1526-H1535.	1.5	139
21	Multiscale models of angiogenesis. IEEE Engineering in Medicine and Biology Magazine, 2009, 28, 14-31.	1.1	139
22	A systems biology view of blood vessel growth and remodelling. Journal of Cellular and Molecular Medicine, 2014, 18, 1491-1508.	1.6	139
23	Anti-Angiogenic Peptides for Cancer Therapeutics. Current Pharmaceutical Biotechnology, 2011, 12, 1101-1116.	0.9	139
24	Model of competitive binding of vascular endothelial growth factor and placental growth factor to VEGF receptors on endothelial cells. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 286, H153-H164.	1.5	134
25	A compartment model of VEGF distribution in blood, healthy and diseased tissues. BMC Systems Biology, 2008, 2, 77.	3.0	119
26	Assessment and impact of heterogeneities of convective oxygen transport parameters in capillaries of striated muscle: Experimental and theoretical. Microvascular Research, 1988, 35, 341-362.	1.1	118
27	A computational multiscale agent-based model for simulating spatio-temporal tumour immune response to PD1 and PDL1 inhibition. Journal of the Royal Society Interface, 2017, 14, 20170320.	1.5	118
28	Effects of endothelial cell proliferation and migration rates in a computational model of sprouting angiogenesis. Scientific Reports, 2016, 6, 36992.	1.6	115
29	Multiscale Agent-Based and Hybrid Modeling of the Tumor Immune Microenvironment. Processes, 2019, 7, 37.	1.3	115
30	Dimerization of VEGF receptors and implications for signal transduction: A computational study. Biophysical Chemistry, 2007, 128, 125-139.	1.5	109
31	Elongation, proliferation & migration differentiate endothelial cell phenotypes and determine capillary sprouting. BMC Systems Biology, 2009, 3, 13.	3.0	103
32	VEGF gradients, receptor activation, and sprout guidance in resting and exercising skeletal muscle. Journal of Applied Physiology, 2007, 102, 722-734.	1.2	97
33	Quantification and cell-to-cell variation of vascular endothelial growth factor receptors. Experimental Cell Research, 2011, 317, 955-965.	1.2	95
34	A Computational Study of the Effect of Vasomotion on Oxygen Transport from Capillary Networks. Journal of Theoretical Biology, 2001, 209, 189-199.	0.8	94
35	Effect of Tumor Microenvironment on Tumor VEGF During Anti-VEGF Treatment: Systems Biology Predictions. Journal of the National Cancer Institute, 2013, 105, 802-811.	3.0	92
36	Increase of Plasma VEGF after Intravenous Administration of Bevacizumab Is Predicted by a Pharmacokinetic Model. Cancer Research, 2010, 70, 9886-9894.	0.4	90

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37	A compartmental model for oxygen transport in brain microcirculation. Annals of Biomedical Engineering, 1989, 17, 13-38.	1.3	88
38	A computational model of intracellular oxygen sensing by hypoxia-inducible factor HIF1Î±. Journal of Cell Science, 2006, 119, 3467-3480.	1.2	88
39	Effect of red blood cell shape on oxygen transport in capillaries. Mathematical Biosciences, 1993, 116, 89-110.	0.9	87
40	Model of nitric oxide diffusion in an arteriole: impact of hemoglobin-based blood substitutes. American Journal of Physiology - Heart and Circulatory Physiology, 2002, 282, H2245-H2253.	1.5	86
41	Interactions of VEGF isoforms with VEGFR-1, VEGFR-2, and neuropilin in vivo: a computational model of human skeletal muscle. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 292, H459-H474.	1.5	85
42	Endothelial cells decode VEGF-mediated Ca ²⁺ signaling patterns to produce distinct functional responses. Science Signaling, 2016, 9, ra20.	1.6	85
43	Theoretical analysis of biochemical pathways of nitric oxide release from vascular endothelial cells. Free Radical Biology and Medicine, 2006, 41, 668-680.	1.3	83
44	Targeting Neuropilin-1 to Inhibit VEGF Signaling in Cancer: Comparison of Therapeutic Approaches. PLoS Computational Biology, 2006, 2, e180.	1.5	82
45	A Biochemical Model of Matrix Metalloproteinase 9 Activation and Inhibition. Journal of Biological Chemistry, 2007, 282, 37585-37596.	1.6	81
46	Systems biology of proâ€angiogenic therapies targeting the VEGF system. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2010, 2, 694-707.	6.6	80
47	Bloodâ€“plasma separation in Y-shaped bifurcating microfluidic channels: a dissipative particle dynamics simulation study. Physical Biology, 2012, 9, 026010.	0.8	80
48	A systematic methodology for proteome-wide identification of peptides inhibiting the proliferation and migration of endothelial cells. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 13775-13780.	3.3	78
49	A Reaction-Diffusion Model of Basic Fibroblast Growth Factor Interactions with Cell Surface Receptors. Annals of Biomedical Engineering, 2004, 32, 645-663.	1.3	77
50	Differential binding of VEGF isoforms to VEGF receptor 2 in the presence of neuropilin-1: a computational model. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H2851-H2860.	1.5	77
51	A Theoretical Model of Type I Collagen Proteolysis by Matrix Metalloproteinase (MMP) 2 and Membrane Type 1 MMP in the Presence of Tissue Inhibitor of Metalloproteinase 2. Journal of Biological Chemistry, 2004, 279, 39105-39114.	1.6	74
52	A theoretical model of nitric oxide transport in arterioles: frequency- vs. amplitude-dependent control of cGMP formation. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 286, H1043-H1056.	1.5	72
53	Endothelial cell-by-cell profiling reveals the temporal dynamics of VEGFR1 and VEGFR2 membrane localization after murine hindlimb ischemia. American Journal of Physiology - Heart and Circulatory Physiology, 2013, 304, H1085-H1093.	1.5	71
54	Effect of aggregation and shear rate on the dispersion of red blood cells flowing in venules. American Journal of Physiology - Heart and Circulatory Physiology, 2002, 283, H1985-H1996.	1.5	70

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55	Wall shear stress differentially affects NO level in arterioles for volume expanders and Hb-based O2 carriers. Microvascular Research, 2003, 66, 49-58.	1.1	70
56	A bioimage informatics based reconstruction of breast tumor microvasculature with computational blood flow predictions. Microvascular Research, 2014, 91, 8-21.	1.1	69
57	A QSP Model for Predicting Clinical Responses to Monotherapy, Combination and Sequential Therapy Following CTLA-4, PD-1, and PD-L1 Checkpoint Blockade. Scientific Reports, 2019, 9, 11286.	1.6	69
58	Erythrocyte consumption of nitric oxide in presence and absence of plasma-based hemoglobin. American Journal of Physiology - Heart and Circulatory Physiology, 2002, 282, H2265-H2277.	1.5	68
59	Contribution of nNOS- and eNOS-derived NO to microvascular smooth muscle NO exposure. Journal of Applied Physiology, 2004, 97, 293-301.	1.2	68
60	Distinct modes of collagen type I proteolysis by matrix metalloproteinase (MMP) 2 and membrane type I MMP during the migration of a tip endothelial cell: Insights from a computational model. Journal of Theoretical Biology, 2006, 238, 124-145.	0.8	68
61	A Computer-Based Method for Determination of the Cell-Free Layer Width in Microcirculation. Microcirculation, 2006, 13, 199-207.	1.0	66
62	A computational model of oxygen transport in skeletal muscle for sprouting and splitting modes of angiogenesis. Journal of Theoretical Biology, 2006, 241, 94-108.	0.8	66
63	Multi-scale Modeling in Clinical Oncology: Opportunities and Barriers to Success. Annals of Biomedical Engineering, 2016, 44, 2626-2641.	1.3	66
64	A Theoretical Analysis of Intracellular Oxygen Diffusion. Journal of Theoretical Biology, 1995, 176, 433-445.	0.8	65
65	A Compartment Model of VEGF Distribution in Humans in the Presence of Soluble VEGF Receptor-1 Acting as a Ligand Trap. PLoS ONE, 2009, 4, e5108.	1.1	65
66	Crosstalk between cancer cells and blood endothelial and lymphatic endothelial cells in tumour and organ microenvironment. Expert Reviews in Molecular Medicine, 2015, 17, e3.	1.6	65
67	Nitric oxide from nitrite reduction by hemoglobin in the plasma and erythrocytes. Nitric Oxide - Biology and Chemistry, 2008, 18, 47-60.	1.2	64
68	Skeletal muscle VEGF gradients in peripheral arterial disease: simulations of rest and exercise. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 293, H3740-H3749.	1.5	63
69	Simultaneous blockade of IL-6 and CCL5 signaling for synergistic inhibition of triple-negative breast cancer growth and metastasis. Breast Cancer Research, 2018, 20, 54.	2.2	63
70	Quantifying the Proteolytic Release of Extracellular Matrix-Sequestered VEGF with a Computational Model. PLoS ONE, 2010, 5, e11860.	1.1	62
71	Theoretical models for coronary vascular biomechanics: Progress & challenges. Progress in Biophysics and Molecular Biology, 2011, 104, 49-76.	1.4	62
72	Computational systems biology approaches to anti-angiogenic cancer therapeutics. Drug Discovery Today, 2015, 20, 187-197.	3.2	62

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73	CALCULATIONS OF OXYGEN TRANSPORT BY RED BLOOD CELLS AND HEMOGLOBIN SOLUTIONS IN CAPILLARIES. Artificial Cells, Blood Substitutes, and Biotechnology, 2002, 30, 157-188.	0.9	61
74	Gene delivery nanoparticles to modulate angiogenesis. Advanced Drug Delivery Reviews, 2017, 119, 20-43.	6.6	61
75	Estimating oxygen transport resistance of the microvascular wall. American Journal of Physiology - Heart and Circulatory Physiology, 2000, 279, H657-H671.	1.5	60
76	Effects of erythrocyte aggregation and venous network geometry on red blood cell axial migration. American Journal of Physiology - Heart and Circulatory Physiology, 2001, 281, H939-H950.	1.5	60
77	Identification of novel short peptides derived from the Î±4, Î±5, and Î±6 fibrils of type IV collagen with anti-angiogenic properties. Biochemical and Biophysical Research Communications, 2007, 354, 434-439.	1.0	60
78	Module-based multiscale simulation of angiogenesis in skeletal muscle. Theoretical Biology and Medical Modelling, 2011, 8, 6.	2.1	60
79	Oxygen transport in resting and contracting hamster cremaster muscles: Experimental and theoretical microvascular studies. Microvascular Research, 1983, 25, 108-131.	1.1	59
80	VEGF and soluble VEGF receptor-1 (sFlt-1) distributions in peripheral arterial disease: an in silico model. American Journal of Physiology - Heart and Circulatory Physiology, 2010, 298, H2174-H2191.	1.5	59
81	Aggregate formation of erythrocytes in postcapillary venules. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H584-H590.	1.5	58
82	Peptides Derived from Type IV Collagen, CXC Chemokines, and Thrombospondin-1 Domain-Containing Proteins Inhibit Neovascularization and Suppress Tumor Growth in MDA-MB-231 Breast Cancer Xenografts. Neoplasia, 2009, 11, 1285-IN2.	2.3	58
83	Pharmacokinetics and pharmacodynamics of VEGF-neutralizing antibodies. BMC Systems Biology, 2011, 5, 193.	3.0	58
84	Computational Model of Vascular Endothelial Growth Factor Spatial Distribution in Muscle and Pro-Angiogenic Cell Therapy. PLoS Computational Biology, 2006, 2, e127.	1.5	57
85	Formation of VEGF isoform-specific spatial distributions governing angiogenesis: computational analysis. BMC Systems Biology, 2011, 5, 59.	3.0	57
86	Calculations of intracapillary oxygen tension distributions in muscle. Mathematical Biosciences, 2000, 167, 123-143.	0.9	56
87	Experimental and Theoretical Studies of Oxygen Gradients in Rat Pial Microvessels. Journal of Cerebral Blood Flow and Metabolism, 2008, 28, 1597-1604.	2.4	56
88	The Presence of VEGF Receptors on the Luminal Surface of Endothelial Cells Affects VEGF Distribution and VEGF Signaling. PLoS Computational Biology, 2009, 5, e1000622.	1.5	55
89	The cost of departure from optimal radii in microvascular networks. Journal of Theoretical Biology, 1989, 136, 245-265.	0.8	54
90	Modeling triple-negative breast cancer heterogeneity: Effects of stromal macrophages, fibroblasts and tumor vasculature. Journal of Theoretical Biology, 2018, 452, 56-68.	0.8	54

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91	In silico simulation of a clinical trial with anti-CTLA-4 and anti-PD-L1 immunotherapies in metastatic breast cancer using a systems pharmacology model. Royal Society Open Science, 2019, 6, 190366.	1.1	54
92	Expression of VEGF Receptors on Endothelial Cells in Mouse Skeletal Muscle. PLoS ONE, 2012, 7, e44791.	1.1	54
93	Effect of outer hair cell piezoelectricity on high-frequency receptor potentials. Journal of the Acoustical Society of America, 2003, 113, 453-461.	0.5	53
94	Predicting the Effects of Anti-angiogenic Agents Targeting Specific VEGF Isoforms. AAPS Journal, 2012, 14, 500-509.	2.2	53
95	A Computational Model of Neoadjuvant PD-1 Inhibition in Non-Small Cell Lung Cancer. AAPS Journal, 2019, 21, 79.	2.2	53
96	Multiscale Imaging and Computational Modeling of Blood Flow in the Tumor Vasculature. Annals of Biomedical Engineering, 2012, 40, 2425-2441.	1.3	52
97	Lymphatic endothelial cells support tumor growth in breast cancer. Scientific Reports, 2014, 4, 5853.	1.6	51
98	Crosstalk between stromal components and tumor cells of TNBC via secreted factors enhances tumor growth and metastasis. Oncotarget, 2017, 8, 60210-60222.	0.8	51
99	Quantitative fluorescent profiling of <scp>VEGFR</scp>s reveals tumor cell and endothelial cell heterogeneity in breast cancer xenografts. Cancer Medicine, 2014, 3, 225-244.	1.3	50
100	Multiscale Modeling in the Clinic: Drug Design and Development. Annals of Biomedical Engineering, 2016, 44, 2591-2610.	1.3	50
101	Long-term suppression of ocular neovascularization by intraocular injection of biodegradable polymeric particles containing aÂserpin-derived peptide. Biomaterials, 2013, 34, 7544-7551.	5.7	49
102	An agent-based model of triple-negative breast cancer: the interplay between chemokine receptor CCR5 expression, cancer stem cells, and hypoxia. BMC Systems Biology, 2017, 11, 68.	3.0	49
103	Identification of dynamic mechanical parameters of the human chest during manual cadiopulmonary resuscitation. IEEE Transactions on Biomedical Engineering, 1990, 37, 211-217.	2.5	48
104	Relationship between erythrocyte aggregate size and flow rate in skeletal muscle venules. American Journal of Physiology - Heart and Circulatory Physiology, 2004, 286, H113-H120.	1.5	48
105	A computational model of oxygen delivery by hemoglobin-based oxygen carriers in three-dimensional microvascular networks. Journal of Theoretical Biology, 2007, 248, 657-674.	0.8	47
106	Inhibition of breast cancer growth and metastasis by a biomimetic peptide. Scientific Reports, 2014, 4, 7139.	1.6	47
107	Effect of erythrocyte aggregation at normal human levels on functional capillary density in rat spinotrapezius muscle. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 290, H941-H947.	1.5	46
108	Inhibition of Lymphangiogenesis and Angiogenesis in Breast Tumor Xenografts and Lymph Nodes by a Peptide Derived from Transmembrane Protein 45A. Neoplasia, 2013, 15, 112-IN6.	2.3	46

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109	Angiopoietin-Tie Signaling Pathway in Endothelial Cells: A Computational Model. IScience, 2019, 20, 497-511.	1.9	46
110	A mathematical model of countercurrent exchange of oxygen between paired arterioles and venules. Mathematical Biosciences, 1988, 91, 17-34.	0.9	45
111	Intracoronary administration of FGF-2: a computational model of myocardial deposition and retention. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 288, H263-H279.	1.5	44
112	Multi-scale Computational Models of Pro-angiogenic Treatments in Peripheral Arterial Disease. Annals of Biomedical Engineering, 2007, 35, 982-994.	1.3	44
113	Pentastatin-1, a collagen IV derived 20-mer peptide, suppresses tumor growth in a small cell lung cancer xenograft model. BMC Cancer, 2010, 10, 29.	1.1	44
114	Digital Pathology Analysis Quantifies Spatial Heterogeneity of CD3, CD4, CD8, CD20, and FoxP3 Immune Markers in Triple-Negative Breast Cancer. Frontiers in Physiology, 2020, 11, 583333.	1.3	42
115	Angiogenesis-Associated Crosstalk Between Collagens, CXC Chemokines, and Thrombospondin Domain-Containing Proteins. Annals of Biomedical Engineering, 2011, 39, 2213-2222.	1.3	41
116	Effect of dispersion of vessel diameters and lengths in stochastic networks. Microvascular Research, 1986, 31, 203-222.	1.1	40
117	Analysis of vascular pattern and dimensions in arteriolar networks of the retractor muscle in young hamsters. Microvascular Research, 1987, 34, 168-183.	1.1	40
118	Three autocrine feedback loops determine HIF1Î± expression in chronic hypoxia. Biochimica Et Biophysica Acta - Molecular Cell Research, 2007, 1773, 1511-1525.	1.9	40
119	Computational model of VEGFR2 pathway to ERK activation and modulation through receptor trafficking. Cellular Signalling, 2013, 25, 2496-2510.	1.7	40
120	A Model of Nitric Oxide Capillary Exchange. Microcirculation, 2003, 10, 479-495.	1.0	39
121	Tyrosine kinase blocking collagen IVâ€“derived peptide suppresses ocular neovascularization and vascular leakage. Science Translational Medicine, 2017, 9, .	5.8	39
122	A mechanistic integrative computational model of macrophage polarization: Implications in human pathophysiology. PLoS Computational Biology, 2019, 15, e1007468.	1.5	39
123	Effect of nonaxisymmetric hematocrit distribution on non-Newtonian blood flow in small tubes. Biorheology, 1998, 35, 69-87.	1.2	38
124	Monte Carlo simulations of VEGF binding to cell surface receptors in vitro. Biochimica Et Biophysica Acta - Molecular Cell Research, 2005, 1746, 95-107.	1.9	38
125	An agent-based model of cancer stem cell initiated avascular tumour growth and metastasis: the effect of seeding frequency and location. Journal of the Royal Society Interface, 2014, 11, 20140640.	1.5	38
126	A collagen IVâ€“derived peptide disrupts Î±5Î²1 integrin and potentiates Ang2/Tie2 signaling. JCI Insight, 2019, 4, .	2.3	38

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127	A Two-Compartment Model of VEGF Distribution in the Mouse. PLoS ONE, 2011, 6, e27514.	1.1	38
128	Compartment Model Predicts VEGF Secretion and Investigates the Effects of VEGF Trap in Tumor-Bearing Mice. Frontiers in Oncology, 2013, 3, 196.	1.3	37
129	Effects of Fiber Type and Size on the Heterogeneity of Oxygen Distribution in Exercising Skeletal Muscle. PLoS ONE, 2012, 7, e44375.	1.1	37
130	Analysis of gene expression of secreted factors associated with breast cancer metastases in breast cancer subtypes. Scientific Reports, 2015, 5, 12133.	1.6	36
131	Computational Model of Gab1/2-Dependent VEGFR2 Pathway to Akt Activation. PLoS ONE, 2013, 8, e67438.	1.1	36
132	Estimation of elastic moduli and bending stiffness of the anisotropic outer hair cell wall. Journal of the Acoustical Society of America, 1998, 103, 1007-1011.	0.5	35
133	Conducting a Virtual Clinical Trial in HER2-Negative Breast Cancer Using a Quantitative Systems Pharmacology Model With an Epigenetic Modulator and Immune Checkpoint Inhibitors. Frontiers in Bioengineering and Biotechnology, 2020, 8, 141.	2.0	35
134	Effect of heterogeneous oxygen delivery on the oxygen distribution in skeletal muscle. Mathematical Biosciences, 1986, 81, 91-113.	0.9	34
135	QSPâ€IO: A Quantitative Systems Pharmacology Toolbox for Mechanistic Multiscale Modeling for Immunoâ€Oncology Applications. CPT: Pharmacometrics and Systems Pharmacology, 2020, 9, 484-497.	1.3	34
136	An experimental and theoretical study on the dissolution of mural fibrin clots by tissue-type plasminogen activator. Biotechnology and Bioengineering, 2002, 77, 405-419.	1.7	33
137	Computational Model of MicroRNA Control of HIF-VEGF Pathway: Insights into the Pathophysiology of Ischemic Vascular Disease and Cancer. PLoS Computational Biology, 2015, 11, e1004612.	1.5	33
138	Biomimetic peptide display from a polymeric nanoparticle surface for targeting and antitumor activity to human tripleâ€negative breast cancer cells. Journal of Biomedical Materials Research - Part A, 2018, 106, 1753-1764.	2.1	33
139	Computer Simulation of TSP1 Inhibition of VEGFâ€“Aktâ€“eNOS: An Angiogenesis Triple Threat. Frontiers in Physiology, 2018, 9, 644.	1.3	33
140	Stratified multiphase model for blood flow in a venular bifurcation. Annals of Biomedical Engineering, 1997, 25, 135-153.	1.3	32
141	Nitric oxide production pathways in erythrocytes and plasma. Biorheology, 2009, 46, 107-119.	1.2	32
142	Effects of Chlorpromazine on Mechanical Properties of the Outer Hair Cell Plasma Membrane. Biophysical Journal, 2005, 89, 4090-4095.	0.2	31
143	Pre-treatment of mice with tumor-conditioned media accelerates metastasis to lymph nodes and lungs: a new spontaneous breast cancer metastasis model. Clinical and Experimental Metastasis, 2014, 31, 67-79.	1.7	31
144	Combination therapy with T cell engager and PD-L1 blockade enhances the antitumor potency of T cells as predicted by a QSP model. , 2020, 8, e001141.		31

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145	Potential distribution for a spheroidal cell having a conductive membrane in an electric field. IEEE Transactions on Biomedical Engineering, 1996, 43, 970-972.	2.5	30
146	A Compartmental Model for Oxygen Transport in Brain Microcirculation in the Presence of Blood Substitutes. Journal of Theoretical Biology, 2002, 216, 479-500.	0.8	30
147	Venular endothelium-derived NO can affect paired arteriole: a computational model. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 290, H716-H723.	1.5	30
148	Constructing the angiome: a global angiogenesis protein interaction network. Physiological Genomics, 2012, 44, 915-924.	1.0	30
149	Human expression patterns: qualitative and quantitative analysis of thrombospondinâ€1 under physiological and pathological conditions. Journal of Cellular and Molecular Medicine, 2018, 22, 2086-2097.	1.6	30
150	Quantitative Characterization of CD8+ T Cell Clustering and Spatial Heterogeneity in Solid Tumors. Frontiers in Oncology, 2018, 8, 649.	1.3	30
151	Analysis of capillary-tissue diffusion in multicapillary systems. Mathematical Biosciences, 1978, 39, 187-211.	0.9	29
152	Quantitative systems pharmacology model predictions for efficacy of atezolizumab and nab-paclitaxel in triple-negative breast cancer. , 2021, 9, e002100.		29
153	Vascular Smooth Muscle NO Exposure from Intraerythrocytic SNOHb: A Mathematical Model. Antioxidants and Redox Signaling, 2007, 9, 1097-1110.	2.5	28
154	Vascular and perivascular nitric oxide release and transport: Biochemical pathways of neuronal nitric oxide synthase (NOS1) and endothelial nitric oxide synthase (NOS3). Free Radical Biology and Medicine, 2007, 42, 811-822.	1.3	28
155	Trans-scleral Delivery of Antiangiogenic Proteins. Journal of Ocular Pharmacology and Therapeutics, 2008, 24, 70-79.	0.6	28
156	Effect of dispersion of vessel diameters and lengths in stochastic networks. Microvascular Research, 1986, 31, 223-234.	1.1	27
157	Role of Microvessels in Oxygen Supply to Tissue. Physiology, 1994, 9, 119-123.	1.6	27
158	The ratio of elastic moduli of cochlear outer hair cells derived from osmotic experiments. Journal of the Acoustical Society of America, 1996, 99, 1025-1028.	0.5	27
159	Erythrocyte margination and sedimentation in skeletal muscle venules. American Journal of Physiology - Heart and Circulatory Physiology, 2001, 281, H951-H958.	1.5	27
160	Systems Biology and Physiome Projects. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2009, 1, 153-158.	6.6	27
161	Gene therapy from the perspective of systems biology. Current Opinion in Molecular Therapeutics, 2010, 12, 570-7.	2.8	27
162	Application of Chimera grid to modelling cell motion and aggregation in a narrow tube. International Journal for Numerical Methods in Fluids, 2007, 53, 105-128.	0.9	26

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163	Inhibition of VEGFR2 Activation and Its Downstream Signaling to ERK1/2 and Calcium by Thrombospondin-1 (TSP1): In silico Investigation. Frontiers in Physiology, 2017, 8, 48.	1.3	26
164	Computational investigation of sphingosine kinase 1 (SphK1) and calcium dependent ERK1/2 activation downstream of VEGFR2 in endothelial cells. PLoS Computational Biology, 2017, 13, e1005332.	1.5	26
165	A Quantitative Systems Pharmacology Model of T Cell Engager Applied to Solid Tumor. AAPS Journal, 2020, 22, 85.	2.2	26
166	A data-driven computational model enables integrative and mechanistic characterization of dynamic macrophage polarization. IScience, 2021, 24, 102112.	1.9	26
167	Modeling the circulation with three-terminal electrical networks containing special nonlinear capacitors. Annals of Biomedical Engineering, 1992, 20, 595-616.	1.3	25
168	Theoretical analysis of effects of blood substitute affinity and cooperativity on organ oxygen transport. Journal of Applied Physiology, 2002, 93, 2122-2128.	1.2	25
169	Protein Transport to Choroid and Retina following Periocular Injection: Theoretical and Experimental Study. Annals of Biomedical Engineering, 2007, 35, 615-630.	1.3	25
170	Three-Dimensional Transport Model for Intravitreal and Suprachoroidal Drug Injection. , 2018, 59, 5266.		25
171	Multi-Scale Spatial Analysis of the Tumor Microenvironment Reveals Features of Cabozantinib and Nivolumab Efficacy in Hepatocellular Carcinoma. Frontiers in Immunology, 2022, 13, .	2.2	25
172	Anti-angiogenic peptides identified in thrombospondin type I domains. Biochemical and Biophysical Research Communications, 2007, 359, 63-69.	1.0	24
173	Peptides derived from type I thrombospondin repeat-containing proteins of the CCN family inhibit proliferation and migration of endothelial cells. International Journal of Biochemistry and Cell Biology, 2007, 39, 2314-2323.	1.2	24
174	Tumor Ensemble-Based Modeling and Visualization of Emergent Angiogenic Heterogeneity in Breast Cancer. Scientific Reports, 2019, 9, 5276.	1.6	24
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