

Karen A Mcdonald

List of Publications by Year in descending order

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83
papers

2,284
citations

201674

27
h-index

254184

43
g-index

102
all docs

102
docs citations

102
times ranked

1753
citing authors

#	ARTICLE	IF	CITATIONS
1	SARS-CoV-2 spike binding to ACE2 is stronger and longer ranged due to glycan interaction. <i>Biophysical Journal</i> , 2022, 121, 79-90.	0.5	23
2	Functionalizing silica sol-gel with entrapped plant virus-based immunosorbent nanoparticles. <i>Journal of Nanobiotechnology</i> , 2022, 20, 105.	9.1	2
3	Affinity Sedimentation and Magnetic Separation With Plant-Made Immunosorbent Nanoparticles for Therapeutic Protein Purification. <i>Frontiers in Bioengineering and Biotechnology</i> , 2022, 10, 865481.	4.1	1
4	Technoeconomic Modeling and Simulation for Plant-Based Manufacturing of Recombinant Proteins. <i>Methods in Molecular Biology</i> , 2022, , 159-189.	0.9	3
5	Analysis of Variability of Functionals of Recombinant Protein Production Trajectories Based on Limited Data. <i>International Journal of Molecular Sciences</i> , 2022, 23, 7628.	4.1	0
6	Production of recombinant butyrylcholinesterase from transgenic rice cell suspension cultures in a pilot-scale bioreactor. <i>Biotechnology and Bioengineering</i> , 2021, 118, 1431-1443.	3.3	9
7	Alpha-1 antitrypsin deficiency and recombinant protein sources with focus on plant sources: Updates, challenges and perspectives. <i>Free Radical Biology and Medicine</i> , 2021, 163, 10-30.	2.9	8
8	Molecular pharming to support human life on the moon, mars, and beyond. <i>Critical Reviews in Biotechnology</i> , 2021, 41, 849-864.	9.0	25
9	Process Simulation and Techno-Economic Analysis of Large-Scale Bioproduction of Sweet Protein Thaumatin II. <i>Foods</i> , 2021, 10, 838.	4.3	15
10	Contributions of the international plant science community to the fight against infectious diseases in humans-part 2: Affordable drugs in edible plants for endemic and re-emerging diseases. <i>Plant Biotechnology Journal</i> , 2021, 19, 1921-1936.	8.3	31
11	Contributions of the international plant science community to the fight against human infectious diseases - part 1: epidemic and pandemic diseases. <i>Plant Biotechnology Journal</i> , 2021, 19, 1901-1920.	8.3	44
12	Towards a Biomanufactory on Mars. <i>Frontiers in Astronomy and Space Sciences</i> , 2021, 8, .	2.8	30
13	Introducing uncertainty quantification to techno-economic models of manufacturing field-grown plant-made products. <i>Food and Bioprocess Processing</i> , 2021, 128, 153-165.	3.6	3
14	Immobilization of transgenic plant cells towards bioprinting for production of a recombinant biodefense agent. <i>Biotechnology Journal</i> , 2021, 16, e2100133.	3.5	4
15	Techno-economic process modelling and Monte Carlo simulation data of uncertainty quantification in field-grown plant-based manufacturing. <i>Data in Brief</i> , 2021, 38, 107317.	1.0	3
16	Evaluating the Cost of Pharmaceutical Purification for a Long-Duration Space Exploration Medical Foundry. <i>Frontiers in Microbiology</i> , 2021, 12, 700863.	3.5	9
17	Techno-economic analysis of a plant-based platform for manufacturing antimicrobial proteins for food safety. <i>Biotechnology Progress</i> , 2020, 36, e2896.	2.6	32
18	Simplified bioreactor processes for recombinant butyrylcholinesterase production in transgenic rice cell suspension cultures. <i>Biochemical Engineering Journal</i> , 2020, 163, 107751.	3.6	9

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19	The Emergency Response Capacity of Plant-Based Biopharmaceutical Manufacturing-What It Is and What It Could Be. <i>Frontiers in Plant Science</i> , 2020, 11, 594019.	3.6	48
20	Development and simulation of fully glycosylated molecular models of ACE2-Fc fusion proteins and their interaction with the SARS-CoV-2 spike protein binding domain. <i>PLoS ONE</i> , 2020, 15, e0237295.	2.5	36
21	From Farm to Finger Prick—A Perspective on How Plants Can Help in the Fight Against COVID-19. <i>Frontiers in Bioengineering and Biotechnology</i> , 2020, 8, 782.	4.1	23
22	A method to simplify bioreactor processing for recombinant protein production in rice cell suspension cultures. <i>MethodsX</i> , 2020, 7, 101139.	1.6	2
23	Effects of Kifunensine on Production and N-Glycosylation Modification of Butyrylcholinesterase in a Transgenic Rice Cell Culture Bioreactor. <i>International Journal of Molecular Sciences</i> , 2020, 21, 6896.	4.1	9
24	Technoeconomic analysis of semicontinuous bioreactor production of biopharmaceuticals in transgenic rice cell suspension cultures. <i>Biotechnology and Bioengineering</i> , 2020, 117, 3053-3065.	3.3	22
25	Effects of N-Glycosylation on the Structure, Function, and Stability of a Plant-Made Fc-Fusion Anthrax Decoy Protein. <i>Frontiers in Plant Science</i> , 2019, 10, 768.	3.6	29
26	In Vivo Glycan Engineering via the Mannosidase I Inhibitor (Kifunensine) Improves Efficacy of Rituximab Manufactured in <i>Nicotiana benthamiana</i> Plants. <i>International Journal of Molecular Sciences</i> , 2019, 20, 194.	4.1	27
27	Purification and site-specific N-glycosylation analysis of human recombinant butyrylcholinesterase from <i>Nicotiana benthamiana</i> . <i>Biochemical Engineering Journal</i> , 2019, 142, 58-67.	3.6	10
28	Purification, characterization, and N-glycosylation of recombinant butyrylcholinesterase from transgenic rice cell suspension cultures. <i>Biotechnology and Bioengineering</i> , 2018, 115, 1301-1310.	3.3	16
29	An oxidation-resistant, recombinant alpha-1 antitrypsin produced in <i>Nicotiana benthamiana</i> . <i>Free Radical Biology and Medicine</i> , 2018, 120, 303-310.	2.9	15
30	Transient Recombinant Protein Production in Glycoengineered <i>Nicotiana benthamiana</i> Cell Suspension Culture. <i>International Journal of Molecular Sciences</i> , 2018, 19, 1205.	4.1	32
31	Glycoform Modification of Secreted Recombinant Glycoproteins through Kifunensine Addition during Transient Vacuum Agroinfiltration. <i>International Journal of Molecular Sciences</i> , 2018, 19, 890.	4.1	9
32	Enhancement of Recombinant Protein Production in Transgenic <i>Nicotiana benthamiana</i> Plant Cell Suspension Cultures with Co-Cultivation of <i>Agrobacterium</i> Containing Silencing Suppressors. <i>International Journal of Molecular Sciences</i> , 2018, 19, 1561.	4.1	8
33	Technoeconomic Modeling of Plant-Based Griffithsin Manufacturing. <i>Frontiers in Bioengineering and Biotechnology</i> , 2018, 6, 102.	4.1	46
34	Media development for large scale <i>Agrobacterium tumefaciens</i> culture. <i>Biotechnology Progress</i> , 2017, 33, 1218-1225.	2.6	7
35	Growth kinetics and scale-up of <i>Agrobacterium tumefaciens</i> . <i>Applied Microbiology and Biotechnology</i> , 2017, 101, 4895-4903.	3.6	6
36	Expression, Purification, and Biophysical Characterization of a Secreted Anthrax Decoy Fusion Protein in <i>Nicotiana benthamiana</i> . <i>International Journal of Molecular Sciences</i> , 2017, 18, 89.	4.1	9

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37	Semicontinuous Bioreactor Production of Recombinant Butyrylcholinesterase in Transgenic Rice Cell Suspension Cultures. <i>Frontiers in Plant Science</i> , 2016, 7, 412.	3.6	42
38	Transient Expression of Tetrameric Recombinant Human Butyrylcholinesterase in <i>Nicotiana benthamiana</i> . <i>Frontiers in Plant Science</i> , 2016, 7, 743.	3.6	33
39	Improved transient production of a cellulase enzyme in detached sunflower leaves using plant hormones. <i>Biotechnology and Bioprocess Engineering</i> , 2016, 21, 726-732.	2.6	4
40	Techno-economic analysis of a transient plant-based platform for monoclonal antibody production. <i>MAbs</i> , 2016, 8, 1456-1466.	5.2	138
41	Cross-linked aggregation of glutamate decarboxylase to extend its activity range toward alkaline pH. <i>Journal of Chemical Technology and Biotechnology</i> , 2015, 90, 2100-2105.	3.2	3
42	Effect of leaf incubation temperature profiles on <i>Agrobacterium tumefaciens</i> -mediated transient expression. <i>Biotechnology Progress</i> , 2015, 31, 783-790.	2.6	14
43	Quantitative Evaluation of E1 Endoglucanase Recovery from Tobacco Leaves Using the Vacuum Infiltration-Centrifugation Method. <i>BioMed Research International</i> , 2014, 2014, 1-10.	1.9	13
44	Manufacturing Economics of Plant-Made Biologics: Case Studies in Therapeutic and Industrial Enzymes. <i>BioMed Research International</i> , 2014, 2014, 1-16.	1.9	145
45	Salt-free production of L-aminobutyric acid from glutamate using glutamate decarboxylase separated from <i>Escherichia coli</i> . <i>Journal of Chemical Technology and Biotechnology</i> , 2014, 89, 1432-1436.	3.2	13
46	<i>Agrobacterium tumefaciens</i> mediated transient expression of plant cell wall-degrading enzymes in detached sunflower leaves. <i>Biotechnology Progress</i> , 2014, 30, 905-915.	2.6	24
47	Molecular Farming Using Bioreactor-Based Plant Cell Suspension Cultures for Recombinant Protein Production. , 2012, , 37-67.		9
48	Bipartite and tripartite Cucumber mosaic virus-based vectors for producing the <i>Acidothermus cellulolyticus</i> endo-1,4- β -glucanase and other proteins in non-transgenic plants. <i>BMC Biotechnology</i> , 2012, 12, 66.	3.3	14
49	Bioreactor systems for in vitro production of foreign proteins using plant cell cultures. <i>Biotechnology Advances</i> , 2012, 30, 398-409.	11.7	140
50	Transient Co-Expression of Post-Transcriptional Gene Silencing Suppressors for Increased in Planta Expression of a Recombinant Anthrax Receptor Fusion Protein. <i>International Journal of Molecular Sciences</i> , 2011, 12, 4975-4990.	4.1	30
51	Production and characterization of <i>Acidothermus cellulolyticus</i> endoglucanase in <i>Pichia pastoris</i> . <i>Protein Expression and Purification</i> , 2011, 77, 153-158.	1.3	31
52	Semicontinuous bioreactor production of a recombinant human therapeutic protein using a chemically inducible viral amplicon expression system in transgenic plant cell suspension cultures. <i>Biotechnology and Bioengineering</i> , 2010, 106, 408-421.	3.3	39
53	Bioreactor strategies for improving production yield and functionality of a recombinant human protein in transgenic tobacco cell cultures. <i>Biotechnology and Bioengineering</i> , 2009, 102, 508-520.	3.3	60
54	Optimization of the bioprocessing conditions for scale-up of transient production of a heterologous protein in plants using a chemically inducible viral amplicon expression system. <i>Biotechnology Progress</i> , 2009, 25, 722-734.	2.6	23

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55	Bioreactor engineering for recombinant protein production in plant cell suspension cultures. <i>Biochemical Engineering Journal</i> , 2009, 45, 168-184.	3.6	147
56	Production of Human α -1-Antitrypsin from Transgenic Rice Cell Culture in a Membrane Bioreactor. <i>Biotechnology Progress</i> , 2008, 21, 728-734.	2.6	85
57	A Cyclical Semicontinuous Process for Production of Human α -1-Antitrypsin Using Metabolically Induced Plant Cell Suspension Cultures. <i>Biotechnology Progress</i> , 2008, 21, 321-328.	2.6	40
58	High-Level Transient Production of a Heterologous Protein in Plants by Optimizing Induction of a Chemically Inducible Viral Amplicon Expression System. <i>Biotechnology Progress</i> , 2007, 23, 1277-1285.	2.6	22
59	A chemically inducible cucumber mosaic virus amplicon system for expression of heterologous proteins in plant tissues. <i>Plant Biotechnology Journal</i> , 2006, 4, 060607001144001-???	8.3	44
60	Evaluating Extraction and Storage of a Recombinant Protein Produced in Agroinfiltrated Lettuce. <i>Biotechnology Progress</i> , 2006, 22, 723-730.	2.6	6
61	Expression of recombinant trichosanthin, a ribosome-inactivating protein, in transgenic tobacco. <i>Journal of Biotechnology</i> , 2002, 97, 69-88.	3.8	46
62	Bioreactor Production of Human α -1-Antitrypsin Using Metabolically Regulated Plant Cell Cultures. <i>Biotechnology Progress</i> , 2002, 18, 501-508.	2.6	49
63	Classification of abnormal plant operation using multiple process variable trends. <i>Journal of Process Control</i> , 2001, 11, 409-418.	3.3	43
64	Characterization of plant suspension cultures using the focused beam reflectance technique. <i>Biotechnology Letters</i> , 2001, 23, 317-324.	2.2	37
65	Classification of process trends based on fuzzified symbolic representation and hidden Markov models. <i>Journal of Process Control</i> , 1998, 8, 395-408.	3.3	41
66	A novel type-1 ribosome-inactivating protein isolated from the supernatant of transformed suspension cultures of <i>Trichosanthes kirilowii</i> . <i>Plant Cell Reports</i> , 1998, 17, 531-537.	5.6	5
67	Bifunctional plant defence enzymes with chitinase and ribosome inactivating activities from <i>Trichosanthes kirilowii</i> cell cultures. <i>Plant Science</i> , 1997, 130, 145-150.	3.6	36
68	Kinetics of Growth and Ribosome-Inactivating Protein Production from <i>Trichosanthes kirilowii</i> Plant Cell Cultures in a 5-L Bioreactor. <i>Biotechnology Progress</i> , 1997, 13, 799-804.	2.6	4
69	Purification and characterization of chitinases from transformed callus suspension cultures of <i>Trichosanthes kirilowii</i> Maxim.. <i>Journal of Bioscience and Bioengineering</i> , 1997, 84, 28-34.	0.9	6
70	Effect of light irradiance on the production of sulfolipids from <i>Anabaena</i> 7120 in a fed-batch photobioreactor. <i>Applied Biochemistry and Biotechnology</i> , 1997, 67, 139-152.	2.9	16
71	Thermal stress analysis of crystal growth in a horizontal Bridgman furnace. <i>Journal of Crystal Growth</i> , 1997, 171, 361-372.	1.5	4
72	A Simplified Procedure for the Purification of Trichosanthin (A Type 1 Ribosome Inactivating Protein) from <i>Trichosanthes kirilowii</i> Root Tubers. <i>Protein Expression and Purification</i> , 1996, 7, 143-146.	1.3	8

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73	Plant callus as a source of biochemicals. <i>Applied Biochemistry and Biotechnology</i> , 1995, 54, 93-108.	2.9	3
74	Ribosome-Inactivating Protein Production from <i>Trichosanthes kirilowii</i> Plant Cell Cultures. <i>Biotechnology Progress</i> , 1994, 10, 345-352.	2.6	16
75	Building the Confidence of Women Engineering Students With a New Course to Increase Understanding of Physical Devices. <i>Journal of Engineering Education</i> , 1994, 83, 337-342.	3.0	7
76	The Monod constant for growth for <i>Candida utilis</i> on ammonium in continuous and batch cultures. <i>Biotechnology Progress</i> , 1993, 9, 93-96.	2.6	9
77	BOUNDARY ELEMENT SOLUTIONS FOR FREE BOUNDARY CONVECTION-DIFFUSION PROBLEMS. <i>Numerical Heat Transfer; Part A: Applications</i> , 1992, 21, 299-311.	2.1	7
78	Oscillatory behavior of <i>Saccharomyces cerevisiae</i> in continuous culture: I. Effects of pH and nitrogen levels. <i>Biotechnology and Bioengineering</i> , 1990, 36, 19-27.	3.3	48
79	Oscillatory behavior of <i>Saccharomyces cerevisiae</i> in continuous culture: II. Analysis of cell synchronization and metabolism. <i>Biotechnology and Bioengineering</i> , 1990, 36, 28-38.	3.3	60
80	Bioreactor studies of growth and nutrient utilization in alfalfa suspension cultures. <i>Plant Cell Reports</i> , 1989, 8, 455-458.	5.6	62
81	Impact of model uncertainty descriptions for high-purity distillation control. <i>AIChE Journal</i> , 1988, 34, 1996-2004.	3.6	27
82	Manipulative Variable Selection for Stabilizing Control of a Competitive Mixed Culture. , 1988, , .		0
83	Production of novel SARS-CoV-2 Spike truncations in Chinese hamster ovary cells leads to high expression and binding to antibodies. <i>Biotechnology Journal</i> , 0, , 2100678.	3.5	2