David F Ackerley

List of Publications by Year
in descending order

69 papers	2,732 citations	185998 28 h-index	189595 50 g-index
78 all docs	78 docs citations	78 times ranked	2940 citing authors

#	Article	IF	Citations
1	Chromate-Reducing Properties of Soluble Flavoproteins from Pseudomonas putida and Escherichia coli. Applied and Environmental Microbiology, 2004, 70, 873-882.	1.4	252
2	Mechanism of chromate reduction by the Escherichia coli protein, NfsA, and the role of different chromate reductases in minimizing oxidative stress during chromate reduction. Environmental Microbiology, 2004, 6, 851-860.	1.8	219
3	Effect of Chromate Stress on Escherichia coli K-12. Journal of Bacteriology, 2006, 188, 3371-3381.	1.0	202
4	Secondary metabolism in the lichen symbiosis. Chemical Society Reviews, 2018, 47, 1730-1760.	18.7	145
5	ChrR, a Soluble Quinone Reductase of Pseudomonas putida That Defends against H2O2. Journal of Biological Chemistry, 2005, 280, 22590-22595.	1.6	119
6	Nitroreductase gene-directed enzyme prodrug therapy: insights and advances toward clinical utility. Biochemical Journal, 2015, 471, 131-153.	1.7	111
7	Discovery and evaluation of Escherichia coli nitroreductases that activate the anti-cancer prodrug CB1954. Biochemical Pharmacology, 2010, 79, 678-687.	2.0	96
8	Role of the rapA Gene in Controlling Antibiotic Resistance of Escherichia coli Biofilms. Antimicrobial Agents and Chemotherapy, 2007, 51, 3650-3658.	1.4	90
9	Escherichia coli NemA Is an Efficient Chromate Reductase That Can Be Biologically Immobilized to Provide a Cell Free System for Remediation of Hexavalent Chromium. PLoS ONE, 2013, 8, e59200.	1.1	78
10	Structural, functional and evolutionary perspectives on effective re-engineering of non-ribosomal peptide synthetase assembly lines. Natural Product Reports, 2018, 35, 1210-1228.	5.2	76
11	Analysis of Novel Soluble Chromate and Uranyl Reductases and Generation of an Improved Enzyme by Directed Evolution. Applied and Environmental Microbiology, 2006, 72, 7074-7082.	1.4	70
12	Biosynthesis of Novel Pyoverdines by Domain Substitution in a Nonribosomal Peptide Synthetase of Pseudomonas aeruginosa. Applied and Environmental Microbiology, 2014, 80, 5723-5731.	1.4	62
13	Efficient rational modification of non-ribosomal peptides by adenylation domain substitution. Nature Communications, 2020, 11, 4554.	5.8	62
14	Characterization of pyoverdine and achromobactin in Pseudomonas syringae pv. phaseolicola 1448a. BMC Microbiology, 2011, 11, 218.	1.3	58
15	Substrate Specificity of the Nonribosomal Peptide Synthetase PvdD from Pseudomonas aeruginosa. Journal of Bacteriology, 2003, 185, 2848-2855.	1.0	56
16	Engineering a Multifunctional Nitroreductase for Improved Activation of Prodrugs and PET Probes for Cancer Gene Therapy. Cell Chemical Biology, 2017, 24, 391-403.	2.5	56
17	A functional screen for recovery of 4â€²â€phosphopantetheinyl transferase and associated natural product biosynthesis genes from metagenome libraries. Environmental Microbiology, 2012, 14, 1198-1209.	1.8	50
18	New enzyme for reductive cancer chemotherapy, YieF, and its improvement by directed evolution. Molecular Cancer Therapeutics, 2006, 5, 97-103.	1.9	49

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19	Creation and screening of a multi-family bacterial oxidoreductase library to discover novel nitroreductases that efficiently activate the bioreductive prodrugs CB1954 and PR-104A. Biochemical Pharmacology, 2013, 85, 1091-1103.	2.0	49
20	Genetic manipulation of non-ribosomal peptide synthetases to generate novel bioactive peptide products. Biotechnology Letters, 2014, 36, 2407-2416.	1.1	49
21	Error-Prone PCR and Effective Generation of Gene Variant Libraries for Directed Evolution. Methods in Molecular Biology, 2014, 1179, 3-22.	0.4	47
22	Rapid and flexible biochemical assays for evaluating 4â€²-phosphopantetheinyl transferase activity. Biochemical Journal, 2011, 436, 709-717.	1.7	43
23	Metagenomic Exploration of the Marine Sponge Mycale hentscheli Uncovers Multiple Polyketide-Producing Bacterial Symbionts. MBio, 2020, 11, .	1.8	43
24	Enzyme improvement in the absence of structural knowledge: a novel statistical approach. ISME Journal, 2008, 2, 171-179.	4.4	36
25	Generating Functional Recombinant NRPS Enzymes in the Laboratory Setting via Peptidyl Carrier Protein Engineering. Cell Chemical Biology, 2016, 23, 1395-1406.	2.5	36
26	Characterization and Genetic Manipulation of Peptide Synthetases in Pseudomonas aeruginosa PAO1 in Order to Generate Novel Pyoverdines. Chemistry and Biology, 2004, 11, 971-980.	6.2	34
27	Reduction of quinones and nitroaromatic compounds by Escherichia coli nitroreductase A (NfsA): Characterization of kinetics and substrate specificity. Archives of Biochemistry and Biophysics, 2017, 614, 14-22.	1.4	33
28	Site-Saturation Mutagenesis by Overlap Extension PCR. Methods in Molecular Biology, 2014, 1179, 83-101.	0.4	30
29	Lamellarin Sulfates from the Pacific Tunicate Didemnum ternerratum. Journal of Natural Products, 2019, 82, 2000-2008.	1.5	29
30	NTR 2.0: a rationally engineered prodrug-converting enzyme with substantially enhanced efficacy for targeted cell ablation. Nature Methods, 2022, 19, 205-215.	9.0	29
31	Advancing Clostridia to Clinical Trial: Past Lessons and Recent Progress. Cancers, 2016, 8, 63.	1.7	28
32	Mechanistic Understanding Enables the Rational Design of Salicylanilide Combination Therapies for Gram-Negative Infections. MBio, 2020, 11, .	1.8	28
33	High-Throughput Screening for Inhibitors of the SARS-CoV-2 Protease Using a FRET-Biosensor. Molecules, 2020, 25, 4666.	1.7	27
34	The Flavin Reductase MsuE Is a Novel Nitroreductase that Can Efficiently Activate Two Promising Next-Generation Prodrugs for Gene-Directed Enzyme Prodrug Therapy. Cancers, 2013, 5, 985-997.	1.7	25
35	Portability of the thiolation domain in recombinant pyoverdine non-ribosomal peptide synthetases. BMC Microbiology, 2015, 15, 162.	1.3	23
36	Pseudomonas aeruginosa MdaB and WrbA are water-soluble two-electron quinone oxidoreductases with the potential to defend against oxidative stress. Journal of Microbiology, 2014, 52, 771-777.	1.3	22

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37	A sensitive single-enzyme assay system using the non-ribosomal peptide synthetase BpsA for measurement of L-glutamine in biological samples. Scientific Reports, 2017, 7, 41745.	1.6	19
38	Rational design of an AKR1C3-resistant analog of PR-104 for enzyme-prodrug therapy. Biochemical Pharmacology, 2016, 116, 176-187.	2.0	16
39	Large-scale phenotypic drug screen identifies neuroprotectants in zebrafish and mouse models of retinitis pigmentosa. ELife, 2021, 10, .	2.8	15
40	Skyllamycins D and E, Non-Ribosomal Cyclic Depsipeptides from Lichen-Sourced Streptomyces anulatus. Journal of Natural Products, 2021, 84, 2536-2543.	1.5	15
41	Pseudomonas aeruginosa NfsB and nitro-CBI-DEI â€“ a promising enzyme/prodrug combination for gene directed enzyme prodrug therapy. Molecular Cancer, 2013, 12, 58.	7.9	13
42	Crystal structure of the essential Mycobacterium tuberculosis phosphopantetheinyl transferase PptT, solved as a fusion protein with maltose binding protein. Journal of Structural Biology, 2014, 188, 274-278.	1.3	13
43	Evaluating the abilities of diverse nitroaromatic prodrug metabolites to exit a model Gram negative vector for bacterial-directed enzyme-prodrug therapy. Biochemical Pharmacology, 2018, 158, 192-200.	2.0	12
44	Engineering Escherichia coli NfsB To Activate a Hypoxia-Resistant Analogue of the PET Probe EF5 To Enable Non-Invasive Imaging during Enzyme Prodrug Therapy. Biochemistry, 2019, 58, 3700-3710.	1.2	11
45	Metathramycin, a new bioactive aureolic acid discovered by heterologous expression of a metagenome derived biosynthetic pathway. RSC Chemical Biology, 2021, 2, 556-567.	2.0	11
46	Development of a Mycobacterium smegmatis transposon mutant array for characterising the mechanism of action of tuberculosis drugs: Findings with isoniazid and its structural analogues. Tuberculosis, 2015, 95, 432-439.	0.8	10
47	Cracking the Nonribosomal Code. Cell Chemical Biology, 2016, 23, 535-537.	2.5	10
48	Evaluation of NfsA-like nitroreductases from Neisseria meningitidis and Bartonella henselae for enzyme-prodrug therapy, targeted cellular ablation, and dinitrotoluene bioremediation. Biotechnology Letters, 2018, 40, 359-367.	1.1	10
49	Mechanism of Two-/Four-Electron Reduction of Nitroaromatics by Oxygen-Insensitive Nitroreductases: The Role of a Non-Enzymatic Reduction Step. Molecules, 2018, 23, 1672.	1.7	10
50	Metagenome Driven Discovery of Nonribosomal Peptides. ACS Chemical Biology, 2019, 14, 2115-2126.	1.6	9
51	The indigoidine synthetase BpsA provides a colorimetric ATP assay that can be adapted to quantify the substrate preferences of other NRPS enzymes. Biotechnology Letters, 2020, 42, 2665-2671.	1.1	9
52	Use of an optimised enzyme/prodrug combination for Clostridia directed enzyme prodrug therapy induces a significant growth delay in necrotic tumours. Cancer Gene Therapy, 2022, 29, 178-188.	2.2	9
53	A cofactor consumption screen identifies promising NfsB family nitroreductases for dinitrotoluene remediation. Biotechnology Letters, 2019, 41, 1155-1162.	1.1	8
54	Hydrated Rubrolides from the New Zealand Tunicate Synoicum kuranui. Journal of Natural Products, 2021, 84, 544-547.	1.5	8

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55	Intracellular complexities of acquiring a new enzymatic function revealed by mass-randomisation of active-site residues. ELife, 2020, 9, .	2.8	8
56	Engineering the Escherichia coli Nitroreductase NfsA to Create a Flexible Enzyme-Prodrug Activation System. Frontiers in Pharmacology, 2021, 12, 701456.	1.6	7
57	Total Synthesis and Bioactivity Studies of Fungal Metabolite (â^')-TAN-2483B. Organic Letters, 2020, 22, 9427-9432.	2.4	6
58	Restoring Tumour Selectivity of the Bioreductive Prodrug PR-104 by Developing an Analogue Resistant to Aerobic Metabolism by Human Aldo-Keto Reductase 1C3. Pharmaceuticals, 2021, 14, 1231.	1.7	5
59	A New Transgenic Line for Rapid and Complete Neutrophil Ablation. Zebrafish, 2022, 19, 109-113.	0.5	5
60	Inhibition of Indigoidine Synthesis as a High-Throughput Colourimetric Screen for Antibiotics Targeting the Essential Mycobacterium tuberculosis Phosphopantetheinyl Transferase PptT. Pharmaceutics, 2021, 13, 1066.	2.0	4
61	Preparation of Soil Metagenome Libraries and Screening for Gene-Specific Amplicons. Methods in Molecular Biology, 2022, 2397, 3-17.	0.4	4
62	A gain-of-function positive-selection expression plasmid that enables high-efficiency cloning. Biotechnology Letters, 2015, 37, 383-389.	1.1	3
63	Directed Evolution of the Nonribosomal Peptide Synthetase BpsA to Enable Recognition by the Human Phosphopantetheinyl Transferase for Counter-Screening Antibiotic Candidates. ACS Infectious Diseases, 2020, 6, 2879-2886.	1.8	3
64	Interrogation of the Structureâ€"Activity Relationship of a Lipophilic Nitroaromatic Prodrug Series Designed for Cancer Gene Therapy Applications. Pharmaceuticals, 2022, 15, 185.	1.7	2
65	Understanding biosynthetic proteinâ€"protein interactions. Natural Product Reports, 2018, 35, 1118-1119.	5.2	1
66	Protocol for evaluating the abilities of diverse nitroaromatic prodrug metabolites to exit a model Gram negative bacterial vector. MethodsX, 2020, 7, 100797.	0.7	1
67	Directed evolution of the B. subtilis nitroreductase YfkO improves activation of the PET-capable probe SN33623 and CB1954 prodrug. Biotechnology Letters, 2021, 43, 203-211.	1.1	1
68	Abstract B88: Discovery, characterization, and engineering of bacterial nitroreductases for gene-directed enzyme prodrug therapy.. , 2011, , .		1
69	Abstract B89: Molecular imaging using bacterial nitroreductase reporter genes by repurposing the clinical stage hypoxia PET probe EF5.. , 2011, , .		0