Rita Bernhardt

List of Publications by Year
in descending order

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Version: 2024-02-01

98 papers	4,176 citations	172457 29 h-index	123424 61 g-index
100 all docs	100 docs citations	100 times ranked	3268 citing authors

#	Article	IF	Citations
1	Characterization of a thermophilic cytochrome P450 of the CYP203A subfamily from Binh Chau hot spring in Vietnam. FEBS Open Bio, 2021, 11, 124-132.	2.3	5
2	Improvement of the 25-hydroxyvitamin D3 production in a CYP109A2-expressing Bacillus megaterium system. Journal of Biotechnology, 2021, 325, 355-359.	3.8	5
3	Development and application of a highly efficient CRISPR-Cas9 system for genome engineering in Bacillus megaterium. Journal of Biotechnology, 2021, 329, 170-179.	3.8	16
4	Resurrection and characterization of ancestral CYP11A1 enzymes. FEBS Journal, 2021, 288, 6510-6527.	4.7	10
5	Underestimated reactions and regulation patterns of adrenal cytochromes P450. Molecular and Cellular Endocrinology, 2021, 530, 111237.	3.2	6
6	Metabolism of oral turinabol by the human brain cholesterol 24-hydroxylase CYP46A1. Journal of Steroid Biochemistry and Molecular Biology, 2021, 212, 105927.	2.5	0
7	Identification and circumvention of bottlenecks in CYP21A2â€mediated premedrol production using recombinantEscherichia coli. Biotechnology and Bioengineering, 2020, 117, 901-911.	3.3	4
8	A Novel Thermostable Cytochrome P450 from Sequence-Based Metagenomics of Binh Chau Hot Spring as a Promising Catalyst for Testosterone Conversion. Catalysts, 2020, 10, 1083.	3.5	4
9	Characterization of the Stereoselective P450 Enzyme BotCYP Enables the In Vitro Biosynthesis of the Bottromycin Core Scaffold. Journal of the American Chemical Society, 2020, 142, 20560-20565.	13.7	8
10	Synthesis, Optimization, Antifungal Activity, Selectivity, and CYP51 Binding of New 2-Aryl-3-azolyl-1-indolyl-propan-2-ols. Pharmaceuticals, 2020, 13, 186.	3.8	12
11	Redox Partners: Function Modulators of Bacterial P450 Enzymes. Trends in Microbiology, 2020, 28, 445-454.	7.7	88
12	Highly regio- and stereoselective hydroxylation of vitamin D2 by CYP109E1. Biochemical and Biophysical Research Communications, 2020, 524, 295-300.	2.1	11
13	Mixed-culture fermentation for enhanced C21-hydroxylation of glucocorticoids. Journal of Biotechnology, 2020, 314-315, 14-24.	3.8	2
14	HIV Drug Efavirenz Inhibits CYP21A2 Activity with Possible Clinical Implications. Hormone Research in Paediatrics, 2019, 91, 262-270.	1.8	6
15	High-yield C11-oxidation of hydrocortisone by establishment of an efficient whole-cell system in Bacillus megaterium. Metabolic Engineering, 2019, 55, 59-67.	7.0	14
16	A novel short chain dehydrogenase from Bacillus megaterium for the conversion of the sesquiterpene nootkatol to (+)-nootkatone. Journal of Biotechnology, 2019, 301, 52-55.	3.8	15
17	Plasma membrane localization of CYP4Z1 and CYP19A1 and the detection of anti-CYP19A1 autoantibodies in humans. International Immunopharmacology, 2019, 73, 64-71.	3.8	18
18	Expanding the promoter toolbox of Bacillus megaterium. Journal of Biotechnology, 2019, 294, 38-48.	3.8	6

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19	CYP109E1 from Bacillus megaterium Acts as a 24â€•and 25â€Hydroxylase for Cholesterol. ChemBioChem, 2019, 20, 655-658.	2.6	11
20	Novel approach to improve progesterone hydroxylation selectivity by CYP 106A2 via rational design of adrenodoxin binding. FEBS Journal, 2019, 286, 1240-1249.	4.7	11
21	Sesquiterpenoids Produced by Combining Two Sesquiterpene Cyclases with Promiscuous Myxobacterial CYP260B1. ChemBioChem, 2019, 20, 677-682.	2.6	9
22	Structure-Based Engineering of Steroidogenic CYP260A1 for Stereo- and Regioselective Hydroxylation of Progesterone. ACS Chemical Biology, 2018, 13, 1021-1028.	3.4	28
23	An Isotopic Labelling Strategy to Study Cytochrome P450 Oxidations of Terpenes. ChemBioChem, 2018, 19, 1498-1501.	2.6	3
24	Functionalized poly(3-hydroxybutyric acid) bodies as new in vitro biocatalysts. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2018, 1866, 52-59.	2.3	4
25	CYP106A2â€”A versatile biocatalyst with high potential for biotechnological production of selectively hydroxylated steroid and terpenoid compounds. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2018, 1866, 11-22.	2.3	28
26	Binding modes of CYP106A2 redox partners determine differences in progesterone hydroxylation product patterns. Communications Biology, 2018, 1, 99.	4.4	29
27	Bacterial steroid hydroxylases: enzyme classes, their functions and comparison of their catalytic mechanisms. Applied Microbiology and Biotechnology, 2018, 102, 8153-8171.	3.6	69
28	Structural insights into oxidation of medium-chain fatty acids and flavanone by myxobacterial cytochrome P450 CYP267B1. Biochemical Journal, 2018, 475, 2801-2817.	3.7	2
29	Characterization and engineering of a carotenoid biosynthesis operon from Bacillus megaterium. Metabolic Engineering, 2018, 49, 47-58.	7.0	14
30	An indoleâ€deficient Escherichia coli strain improves screening of cytochromes P450 for biotechnological applications. Biotechnology and Applied Biochemistry, 2017, 64, 315-326.	3.1	8
31	Investigating the effect of available redox protein ratios for the conversion of a steroid by a myxobacterial <scp>CYP</scp>260A1. FEBS Letters, 2017, 591, 1126-1140.	2.8	24
32	Engineering of CYP106A2 for steroid 9Î±- and 6Î²-hydroxylation. Steroids, 2017, 120, 41-48.	1.8	20
33	Raman and infrared spectroscopic evidence for the structural changes of the 2Fe 2S cluster and its environment during the interaction of adrenodoxin and adrenodoxin reductase. Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy, 2017, 183, 298-305.	3.9	1
34	Improvement of a P450-Based Recombinant Escherichia coli Whole-Cell System for the Production of Oxygenated Sesquiterpene Derivatives. Journal of Agricultural and Food Chemistry, 2017, 65, 3891-3899.	5.2	8
35	Characterization of cytochrome P450 CYP109E1 from Bacillus megaterium as a novel vitamin D3 hydroxylase. Journal of Biotechnology, 2017, 243, 38-47.	3.8	16
36	Biotransformation of prednisone and dexamethasone by cytochrome P450 based systems â€“ Identification of new potential drug candidates. Journal of Biotechnology, 2017, 242, 101-110.	3.8	17

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37	CYP109E1 is a novel versatile statin and terpene oxidase from Bacillus megaterium. Applied Microbiology and Biotechnology, 2017, 101, 8379-8393.	3.6	21
38	CYP260B1 acts as 9Î±-hydroxylase for 11-deoxycorticosterone. Steroids, 2017, 127, 40-45.	1.8	14
39	CYP17A1 inhibitor abiraterone, an anti-prostate cancer drug, also inhibits the 21-hydroxylase activity of CYP21A2. Journal of Steroid Biochemistry and Molecular Biology, 2017, 174, 192-200.	2.5	43
40	Biochemical and structural characterization of <scp>CYP</scp>109A2, a vitamin D₃ 25â€hydroxylase from Bacillus megaterium. FEBS Journal, 2017, 284, 3881-3894.	4.7	15
41	Engineering of versatile redox partner fusions that support monooxygenase activity of functionally diverse cytochrome P450s. Scientific Reports, 2017, 7, 9570.	3.3	38
42	The role of sulfated steroid hormones in reproductive processes. Journal of Steroid Biochemistry and Molecular Biology, 2017, 172, 207-221.	2.5	70
43	The impact of the clinical CYP11B2 mutation V386A strongly depends on the enzyme’s genetic background. Endocrine Journal, 2017, 64, 457-461.	1.6	2
44	Biotransformation of the mineralocorticoid receptor antagonists spironolactone and canrenone by human CYP11B1 and CYP11B2: Characterization of the products and their influence on mineralocorticoid receptor transactivation. Journal of Steroid Biochemistry and Molecular Biology, 2016, 163, 68-76.	2.5	13
45	Scrutiny of electrochemically-driven electrocatalysis of C-19 steroid 1Î±-hydroxylase (CYP260A1) from Sorangium cellulosum So ce56. Analytical Biochemistry, 2016, 513, 28-35.	2.4	11
46	Structural basis of steroid binding and oxidation by the cytochrome P450 <scp>CYP</scp>109E1 from Bacillus megaterium. FEBS Journal, 2016, 283, 4128-4148.	4.7	49
47	Substrate Hunting for the Myxobacterial CYP260A1 Revealed New 1Î±â€Hydroxylated Products from Câ€19 Steroids. ChemBioChem, 2016, 17, 90-101.	2.6	24
48	Role of steroid sulfatase in steroid homeostasis and characterization of the sulfated steroid pathway: Evidence from steroid sulfatase deficiency. Molecular and Cellular Endocrinology, 2016, 437, 142-153.	3.2	41
49	Structural characterization of <scp>CYP</scp>260A1 from Sorangium cellulosum to investigate the 1Î±â€hydroxylation of a mineralocorticoid. FEBS Letters, 2016, 590, 4638-4648.	2.8	10
50	Identification of a new plasmid-encoded cytochrome P450 CYP107DY1 from Bacillus megaterium with a catalytic activity towards mevastatin. Journal of Biotechnology, 2016, 240, 68-75.	3.8	13
51	Crystal Structure of CYP106A2 in Substrateâ€Free and Substrateâ€Bound Form. ChemBioChem, 2016, 17, 852-860.	2.6	18
52	A Novel NADPH-dependent flavoprotein reductase from Bacillus megaterium acts as an efficient cytochrome P450 reductase. Journal of Biotechnology, 2016, 231, 83-94.	3.8	17
53	Structureâ€“function analysis for the hydroxylation of Î”4 C21â€steroids by the myxobacterial CYP260B1. FEBS Letters, 2016, 590, 1838-1851.	2.8	13
54	Selective oxidation of carotenoid-derived aroma compounds by CYP260B1 and CYP267B1 from Sorangium cellulosum So ce56. Applied Microbiology and Biotechnology, 2016, 100, 4447-4457.	3.6	20

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55	Human CYP27A1 catalyzes hydroxylation of Î²-sitosterol and ergosterol. Biological Chemistry, 2016, 397, 513-518.	2.5	5
56	Genetic engineering of Bacillus megaterium for high-yield production of the major teleost progestogens 17Î±,20Î²-di- and 17Î±,20Î²,21Î±-trihydroxy-4-pregnen-3-one. Metabolic Engineering, 2016, 36, 19-27.	7.0	11
57	Products of gut-microbial tryptophan metabolism inhibit the steroid hormone-synthesizing cytochrome P450 11A1. Endocrine, 2016, 53, 610-614.	2.3	12
58	CYP267A1 and CYP267B1 from Sorangium cellulosum So ce56 are Highly Versatile Drug Metabolizers. Drug Metabolism and Disposition, 2016, 44, 495-504.	3.3	13
59	Metabolism of Oral Turinabol by Human Steroid Hormone-Synthesizing Cytochrome P450 Enzymes. Drug Metabolism and Disposition, 2016, 44, 227-237.	3.3	23
60	Phenotypic, metabolic, and molecular genetic characterization of six patients with congenital adrenal hyperplasia caused by novel mutations in the CYP11B1 gene. Journal of Steroid Biochemistry and Molecular Biology, 2016, 155, 126-134.	2.5	20
61	Functionalized PHB granules provide the basis for the efficient side-chain cleavage of cholesterol and analogs in recombinant Bacillus megaterium. Microbial Cell Factories, 2015, 14, 107.	4.0	24
62	Highly Efficient CYP167A1 (EpoK) dependent Epothilone B Formation and Production of 7-Ketone Epothilone D as a New Epothilone Derivative. Scientific Reports, 2015, 5, 14881.	3.3	26
63	A CYP21A2 based whole-cell system in Escherichia coli for the biotechnological production of premedrol. Microbial Cell Factories, 2015, 14, 135.	4.0	21
64	Regioselective Acetylation of C21 Hydroxysteroids by the Bacterial Chloramphenicol Acetyltransferase I. ChemBioChem, 2015, 16, 1670-1679.	2.6	15
65	Identification of new substrates for the CYP106A1â€mediated 11â€oxidation and investigation of the reaction mechanism. FEBS Letters, 2015, 589, 2320-2326.	2.8	17
66	A recombinant CYP11B1 dependent Escherichia coli biocatalyst for selective cortisol production and optimization towards a preparative scale. Microbial Cell Factories, 2015, 14, 25.	4.0	30
67	Process development for the production of 15Î²-hydroxycyproterone acetate using Bacillus megaterium expressing CYP106A2 as whole-cell biocatalyst. Microbial Cell Factories, 2015, 14, 28.	4.0	28
68	Comparison of CYP106A1 and CYP106A2 from Bacillus megateriumâ€‰â€“â€‰identification of a novel 11-oxidase activity. Applied Microbiology and Biotechnology, 2015, 99, 8495-8514.	3.6	27
69	The CYP11B subfamily. Journal of Steroid Biochemistry and Molecular Biology, 2015, 151, 38-51.	2.5	55
70	Steroid conversion with CYP106A2 â€“ production of pharmaceutically interesting DHEA metabolites. Microbial Cell Factories, 2014, 13, 81.	4.0	41
71	Dehydroepiandrosterone Sulfate (DHEAS) Stimulates the First Step in the Biosynthesis of Steroid Hormones. PLoS ONE, 2014, 9, e89727.	2.5	30
72	Cytochromes P450 as promising catalysts for biotechnological application: chances and limitations. Applied Microbiology and Biotechnology, 2014, 98, 6185-6203.	3.6	293

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73	Design and characterization of an efficient CYP105A1-based whole-cell biocatalyst for the conversion of resin acid diterpenoids in permeabilized Escherichia coli. Applied Microbiology and Biotechnology, 2013, 97, 7639-7649.	3.6	37
74	Application of a new versatile electron transfer system for cytochrome P450-based Escherichia coli whole-cell bioconversions. Applied Microbiology and Biotechnology, 2013, 97, 7741-7754.	3.6	45
75	Novel family members of CYP109 from Sorangium cellulosum So ce56 exhibit characteristic biochemical and biophysical properties. Biotechnology and Applied Biochemistry, 2013, 60, 18-29.	3.1	28
76	CYP105A1 mediated 3-hydroxylation of glimepiride and glibenclamide using a recombinant Bacillus megaterium whole-cell catalyst. Journal of Biotechnology, 2012, 157, 405-412.	3.8	16
77	Human aldosterone synthase: Recombinant expression in E. coli and purification enables a detailed biochemical analysis of the protein on the molecular level. Journal of Steroid Biochemistry and Molecular Biology, 2012, 132, 57-65.	2.5	39
78	Adrenodoxinâ€"A versatile ferredoxin. IUBMB Life, 2012, 64, 506-512.	3.4	51
79	Changing the Regioselectivity of a P450 from C15 to C11 Hydroxylation of Progesterone. ChemBioChem, 2012, 13, 1161-1166.	2.6	53
80	A new Bacillus megaterium whole-cell catalyst for the hydroxylation of the pentacyclic triterpene 11-keto-Î²-boswellic acid (KBA) based on a recombinant cytochrome P450 system. Applied Microbiology and Biotechnology, 2012, 93, 1135-1146.	3.6	56
81	The development of a whole-cell based medium throughput screening system for the discovery of human aldosterone synthase (CYP11B2) inhibitors: Old drugs disclose new applications for the therapy of congestive heart failure, myocardial fibrosis and hypertension. Journal of Steroid Biochemistry and Molecular Biology, 2011, 125, 120-128.	2.5	14
82	Functional Characterization of Fdx1: Evidence for an Evolutionary Relationship between P450-Type and ISC-Type Ferredoxins. Journal of Molecular Biology, 2011, 413, 940-951.	4.2	20
83	Investigation of cytochromes P450 in myxobacteria: Excavation of cytochromes P450 from the genome of Sorangium cellulosum So ce56. FEBS Letters, 2011, 585, 1506-1513.	2.8	13
84	Adrenodoxin: The archetype of vertebrate-type [2Feâ€"2S] cluster ferredoxins. Biochimica Et Biophysica Acta - Proteins and Proteomics, 2011, 1814, 111-125.	2.3	76
85	Structural and thermodynamic characterization of the adrenodoxin-like domain of the electron-transfer protein Etp1 from Schizosaccharomyces pombe. Journal of Inorganic Biochemistry, 2011, 105, 957-965.	3.5	11
86	Characterization of the versatile monooxygenase CYP109B1 from Bacillus subtilis. Applied Microbiology and Biotechnology, 2010, 87, 595-607.	3.6	93
87	Regioselective hydroxylation of norisoprenoids by CYP109D1 from Sorangium cellulosum So ce56. Applied Microbiology and Biotechnology, 2010, 88, 485-495.	3.6	57
88	The CYPome of Sorangium cellulosum So ce56 and Identification of CYP109D1 as a New Fatty Acid Hydroxylase. Chemistry and Biology, 2010, 17, 1295-1305.	6.0	50
89	Molecular Evolution of a Steroid Hydroxylating Cytochrome P450 Using a Versatile Steroid Detection System for Screening. Lipids, 2008, 43, 1133-1141.	1.7	40
90	Purification and functional characterization of human 11Î² hydroxylase expressed in Escherichiaâ€ƒcoli. FEBS Journal, 2008, 275, 799-810.	4.7	44

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91	Cytochrome P450 systemsâ€"biological variations of electron transport chains. Biochimica Et Biophysica Acta - General Subjects, 2007, 1770, 330-344.	2.4	633
92	Cytochromes P450 as versatile biocatalysts. Journal of Biotechnology, 2006, 124, 128-145.	3.8	735
93	Optimized Chimeragenesis. Chemistry and Biology, 2004, 11, 287-288.	6.0	16
94	Development of test systems for the discovery of selective human aldosterone synthase (CYP11B2) and 11Î²-hydroxylase (CYP11B1) inhibitors.. Molecular and Cellular Endocrinology, 2004, 217, 249-254.	3.2	41
95	Adrenodoxin: Structure, stability, and electron transfer properties. Proteins: Structure, Function and Bioinformatics, 2000, 40, 590-612.	2.6	194
96	Substrate Binding to 15Î²-Hydroxylase (CYP106A2) Probed by FT Infrared Spectroscopic Studies of the Iron Ligand CO Stretch Vibration. Biochemical and Biophysical Research Communications, 2000, 269, 737-742.	2.1	57
97	Conformational stability of adrenodoxin mutant proteins. Protein Science, 1996, 5, 1890-1897.	7.6	26
98	Cloning and stable expression of the human mitochondrial cytochrome P45011B1 cDNA in V79 Chinese hamster cells and their application for testing of potential inhibitors. Pharmacogenetics and Genomics, 1995, 5, 89-96.	5.7	46