

# Rita Bernhardt

## List of Publications by Year in descending order

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docs citations

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times ranked

3268  
citing authors

#	ARTICLE	IF	CITATIONS
1	Cytochromes P450 as versatile biocatalysts. <i>Journal of Biotechnology</i> , 2006, 124, 128-145.	3.8	735
2	Cytochrome P450 systemsâ€™ biological variations of electron transport chains. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2007, 1770, 330-344.	2.4	633
3	Cytochromes P450 as promising catalysts for biotechnological application: chances and limitations. <i>Applied Microbiology and Biotechnology</i> , 2014, 98, 6185-6203.	3.6	293
4	Adrenodoxin: Structure, stability, and electron transfer properties. <i>Proteins: Structure, Function and Bioinformatics</i> , 2000, 40, 590-612.	2.6	194
5	Characterization of the versatile monooxygenase CYP109B1 from <i>Bacillus subtilis</i> . <i>Applied Microbiology and Biotechnology</i> , 2010, 87, 595-607.	3.6	93
6	Redox Partners: Function Modulators of Bacterial P450 Enzymes. <i>Trends in Microbiology</i> , 2020, 28, 445-454.	7.7	88
7	Adrenodoxin: The archetype of vertebrate-type [2Feâ€™2S] cluster ferredoxins. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2011, 1814, 111-125.	2.3	76
8	The role of sulfated steroid hormones in reproductive processes. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2017, 172, 207-221.	2.5	70
9	Bacterial steroid hydroxylases: enzyme classes, their functions and comparison of their catalytic mechanisms. <i>Applied Microbiology and Biotechnology</i> , 2018, 102, 8153-8171.	3.6	69
10	Substrate Binding to 15Î²-Hydroxylase (CYP106A2) Probed by FT Infrared Spectroscopic Studies of the Iron Ligand CO Stretch Vibration. <i>Biochemical and Biophysical Research Communications</i> , 2000, 269, 737-742.	2.1	57
11	Regioselective hydroxylation of norisoprenoids by CYP109D1 from <i>Sorangium cellulosum</i> So ce56. <i>Applied Microbiology and Biotechnology</i> , 2010, 88, 485-495.	3.6	57
12	A new <i>Bacillus megaterium</i> whole-cell catalyst for the hydroxylation of the pentacyclic triterpene 11-keto-Î²-boswellic acid (KBA) based on a recombinant cytochrome P450 system. <i>Applied Microbiology and Biotechnology</i> , 2012, 93, 1135-1146.	3.6	56
13	The CYP11B subfamily. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2015, 151, 38-51.	2.5	55
14	Changing the Regioselectivity of a P450 from C15 to C11 Hydroxylation of Progesterone. <i>ChemBioChem</i> , 2012, 13, 1161-1166.	2.6	53
15	Adrenodoxinâ€™ A versatile ferredoxin. <i>IUBMB Life</i> , 2012, 64, 506-512.	3.4	51
16	The CYPome of <i>Sorangium cellulosum</i> So ce56 and Identification of CYP109D1 as a New Fatty Acid Hydroxylase. <i>Chemistry and Biology</i> , 2010, 17, 1295-1305.	6.0	50
17	Structural basis of steroid binding and oxidation by the cytochrome P450 <sc>CYP</sc> 109E1 from <i>Bacillus megaterium</i>. <i>FEBS Journal</i> , 2016, 283, 4128-4148.	4.7	49
18	Cloning and stable expression of the human mitochondrial cytochrome P45011B1 cDNA in V79 Chinese hamster cells and their application for testing of potential inhibitors. <i>Pharmacogenetics and Genomics</i> , 1995, 5, 89-96.	5.7	46

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19	Application of a new versatile electron transfer system for cytochrome P450-based <i>Escherichia coli</i> whole-cell bioconversions. <i>Applied Microbiology and Biotechnology</i> , 2013, 97, 7741-7754.	3.6	45
20	Purification and functional characterization of human 11 $\beta$ hydroxylase expressed in <i>Escherichia coli</i> . <i>FEBS Journal</i> , 2008, 275, 799-810.	4.7	44
21	CYP17A1 inhibitor abiraterone, an anti-prostate cancer drug, also inhibits the 21-hydroxylase activity of CYP21A2. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2017, 174, 192-200.	2.5	43
22	Development of test systems for the discovery of selective human aldosterone synthase (CYP11B2) and 11 $\beta$ -hydroxylase (CYP11B1) inhibitors.. <i>Molecular and Cellular Endocrinology</i> , 2004, 217, 249-254.	3.2	41
23	Steroid conversion with CYP106A2 – production of pharmaceutically interesting DHEA metabolites. <i>Microbial Cell Factories</i> , 2014, 13, 81.	4.0	41
24	Role of steroid sulfatase in steroid homeostasis and characterization of the sulfated steroid pathway: Evidence from steroid sulfatase deficiency. <i>Molecular and Cellular Endocrinology</i> , 2016, 437, 142-153.	3.2	41
25	Molecular Evolution of a Steroid Hydroxylating Cytochrome P450 Using a Versatile Steroid Detection System for Screening. <i>Lipids</i> , 2008, 43, 1133-1141.	1.7	40
26	Human aldosterone synthase: Recombinant expression in <i>E. coli</i> and purification enables a detailed biochemical analysis of the protein on the molecular level. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2012, 132, 57-65.	2.5	39
27	Engineering of versatile redox partner fusions that support monooxygenase activity of functionally diverse cytochrome P450s. <i>Scientific Reports</i> , 2017, 7, 9570.	3.3	38
28	Design and characterization of an efficient CYP105A1-based whole-cell biocatalyst for the conversion of resin acid diterpenoids in permeabilized <i>Escherichia coli</i> . <i>Applied Microbiology and Biotechnology</i> , 2013, 97, 7639-7649.	3.6	37
29	Dehydroepiandrosterone Sulfate (DHEAS) Stimulates the First Step in the Biosynthesis of Steroid Hormones. <i>PLoS ONE</i> , 2014, 9, e89727.	2.5	30
30	A recombinant CYP11B1 dependent <i>Escherichia coli</i> biocatalyst for selective cortisol production and optimization towards a preparative scale. <i>Microbial Cell Factories</i> , 2015, 14, 25.	4.0	30
31	Binding modes of CYP106A2 redox partners determine differences in progesterone hydroxylation product patterns. <i>Communications Biology</i> , 2018, 1, 99.	4.4	29
32	Novel family members of CYP109 from <i>Sorangium cellulosum</i> So ce56 exhibit characteristic biochemical and biophysical properties. <i>Biotechnology and Applied Biochemistry</i> , 2013, 60, 18-29.	3.1	28
33	Process development for the production of 15 $\beta$ -hydroxycyproterone acetate using <i>Bacillus megaterium</i> expressing CYP106A2 as whole-cell biocatalyst. <i>Microbial Cell Factories</i> , 2015, 14, 28.	4.0	28
34	Structure-Based Engineering of Steroidogenic CYP260A1 for Stereo- and Regioselective Hydroxylation of Progesterone. <i>ACS Chemical Biology</i> , 2018, 13, 1021-1028.	3.4	28
35	CYP106A2 – A versatile biocatalyst with high potential for biotechnological production of selectively hydroxylated steroid and terpenoid compounds. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2018, 1866, 11-22.	2.3	28
36	Comparison of CYP106A1 and CYP106A2 from <i>Bacillus megaterium</i> – identification of a novel 11-oxidase activity. <i>Applied Microbiology and Biotechnology</i> , 2015, 99, 8495-8514.	3.6	27

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37	Conformational stability of adrenodoxin mutant proteins. <i>Protein Science</i> , 1996, 5, 1890-1897.	7.6	26
38	Highly Efficient CYP167A1 (EpoK) dependent Epothilone B Formation and Production of 7-Ketone Epothilone D as a New Epothilone Derivative. <i>Scientific Reports</i> , 2015, 5, 14881.	3.3	26
39	Functionalized PHB granules provide the basis for the efficient side-chain cleavage of cholesterol and analogs in recombinant <i>Bacillus megaterium</i> . <i>Microbial Cell Factories</i> , 2015, 14, 107.	4.0	24
40	Substrate Hunting for the Myxobacterial CYP260A1 Revealed New 11 $\alpha$ -Hydroxylated Products from C $\alpha$ -19 Steroids. <i>ChemBioChem</i> , 2016, 17, 90-101.	2.6	24
41	Investigating the effect of available redox protein ratios for the conversion of a steroid by a myxobacterial <i>CYP</i> 260A1. <i>FEBS Letters</i> , 2017, 591, 1126-1140.	2.8	24
42	Metabolism of Oral Turinabol by Human Steroid Hormone-Synthesizing Cytochrome P450 Enzymes. <i>Drug Metabolism and Disposition</i> , 2016, 44, 227-237.	3.3	23
43	A CYP21A2 based whole-cell system in <i>Escherichia coli</i> for the biotechnological production of predmedrol. <i>Microbial Cell Factories</i> , 2015, 14, 135.	4.0	21
44	CYP109E1 is a novel versatile statin and terpene oxidase from <i>Bacillus megaterium</i> . <i>Applied Microbiology and Biotechnology</i> , 2017, 101, 8379-8393.	3.6	21
45	Functional Characterization of Fdx1: Evidence for an Evolutionary Relationship between P450-Type and ISC-Type Ferredoxins. <i>Journal of Molecular Biology</i> , 2011, 413, 940-951.	4.2	20
46	Selective oxidation of carotenoid-derived aroma compounds by CYP260B1 and CYP267B1 from <i>Sorangium cellulosum</i> So ce56. <i>Applied Microbiology and Biotechnology</i> , 2016, 100, 4447-4457.	3.6	20
47	Phenotypic, metabolic, and molecular genetic characterization of six patients with congenital adrenal hyperplasia caused by novel mutations in the CYP11B1 gene. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2016, 155, 126-134.	2.5	20
48	Engineering of CYP106A2 for steroid 9 $\alpha$ - and 6 $\beta$ -hydroxylation. <i>Steroids</i> , 2017, 120, 41-48.	1.8	20
49	Crystal Structure of CYP106A2 in Substrate-Free and Substrate-Bound Form. <i>ChemBioChem</i> , 2016, 17, 852-860.	2.6	18
50	Plasma membrane localization of CYP4Z1 and CYP19A1 and the detection of anti-CYP19A1 autoantibodies in humans. <i>International Immunopharmacology</i> , 2019, 73, 64-71.	3.8	18
51	Identification of new substrates for the CYP106A1-mediated 11 $\alpha$ -oxidation and investigation of the reaction mechanism. <i>FEBS Letters</i> , 2015, 589, 2320-2326.	2.8	17
52	A Novel NADPH-dependent flavoprotein reductase from <i>Bacillus megaterium</i> acts as an efficient cytochrome P450 reductase. <i>Journal of Biotechnology</i> , 2016, 231, 83-94.	3.8	17
53	Biotransformation of prednisone and dexamethasone by cytochrome P450 based systems – Identification of new potential drug candidates. <i>Journal of Biotechnology</i> , 2017, 242, 101-110.	3.8	17
54	Optimized Chimeragenesis. <i>Chemistry and Biology</i> , 2004, 11, 287-288.	6.0	16

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55	CYP105A1 mediated 3-hydroxylation of glimepiride and glibenclamide using a recombinant <i>Bacillus megaterium</i> whole-cell catalyst. <i>Journal of Biotechnology</i> , 2012, 157, 405-412.	3.8	16
56	Characterization of cytochrome P450 CYP109E1 from <i>Bacillus megaterium</i> as a novel vitamin D3 hydroxylase. <i>Journal of Biotechnology</i> , 2017, 243, 38-47.	3.8	16
57	Development and application of a highly efficient CRISPR-Cas9 system for genome engineering in <i>Bacillus megaterium</i> . <i>Journal of Biotechnology</i> , 2021, 329, 170-179.	3.8	16
58	Regioselective Acetylation of C21 Hydroxysteroids by the Bacterial Chloramphenicol Acetyltransferase I. <i>ChemBioChem</i> , 2015, 16, 1670-1679.	2.6	15
59	Biochemical and structural characterization of CYP109A2, a vitamin D <sub>3</sub> 25-hydroxylase from <i>Bacillus megaterium</i> . <i>FEBS Journal</i> , 2017, 284, 3881-3894.	4.7	15
60	A novel short chain dehydrogenase from <i>Bacillus megaterium</i> for the conversion of the sesquiterpene nootkatol to (+)-nootkatone. <i>Journal of Biotechnology</i> , 2019, 301, 52-55.	3.8	15
61	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. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2011, 125, 120-128.	2.5	14
62	CYP260B1 acts as 9 $\alpha$ -hydroxylase for 11-deoxycorticosterone. <i>Steroids</i> , 2017, 127, 40-45.	1.8	14
63	Characterization and engineering of a carotenoid biosynthesis operon from <i>Bacillus megaterium</i> . <i>Metabolic Engineering</i> , 2018, 49, 47-58.	7.0	14
64	High-yield C11-oxidation of hydrocortisone by establishment of an efficient whole-cell system in <i>Bacillus megaterium</i> . <i>Metabolic Engineering</i> , 2019, 55, 59-67.	7.0	14
65	Investigation of cytochromes P450 in myxobacteria: Excavation of cytochromes P450 from the genome of <i>Sorangium cellulosum</i> So ce56. <i>FEBS Letters</i> , 2011, 585, 1506-1513.	2.8	13
66	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. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2016, 163, 68-76.	2.5	13
67	Identification of a new plasmid-encoded cytochrome P450 CYP107DY1 from <i>Bacillus megaterium</i> with a catalytic activity towards mevastatin. <i>Journal of Biotechnology</i> , 2016, 240, 68-75.	3.8	13
68	Structure-function analysis for the hydroxylation of 4 C21-steroids by the myxobacterial CYP260B1. <i>FEBS Letters</i> , 2016, 590, 1838-1851.	2.8	13
69	CYP267A1 and CYP267B1 from <i>Sorangium cellulosum</i> So ce56 are Highly Versatile Drug Metabolizers. <i>Drug Metabolism and Disposition</i> , 2016, 44, 495-504.	3.3	13
70	Products of gut-microbial tryptophan metabolism inhibit the steroid hormone-synthesizing cytochrome P450 11A1. <i>Endocrine</i> , 2016, 53, 610-614.	2.3	12
71	Synthesis, Optimization, Antifungal Activity, Selectivity, and CYP51 Binding of New 2-Aryl-3-azolyl-1-indolyl-propan-2-ols. <i>Pharmaceuticals</i> , 2020, 13, 186.	3.8	12
72	Structural and thermodynamic characterization of the adrenodoxin-like domain of the electron-transfer protein Etp1 from <i>Schizosaccharomyces pombe</i> . <i>Journal of Inorganic Biochemistry</i> , 2011, 105, 957-965.	3.5	11

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73	Scrutiny of electrochemically-driven electrocatalysis of C-19 steroid 11 $\beta$ -hydroxylase (CYP260A1) from <i>Sorangium cellulosum</i> So ce56. <i>Analytical Biochemistry</i> , 2016, 513, 28-35.	2.4	11
74	Genetic engineering of <i>Bacillus megaterium</i> for high-yield production of the major teleost progestogens 17 $\beta$ ,20 $\beta$ -di- and 17 $\beta$ ,20 $\beta$ ,21 $\beta$ -trihydroxy-4-pregnen-3-one. <i>Metabolic Engineering</i> , 2016, 36, 19-27.	7.0	11
75	CYP109E1 from <i>Bacillus megaterium</i> Acts as a 24 $\alpha$ - and 25 $\alpha$ -Hydroxylase for Cholesterol. <i>ChemBioChem</i> , 2019, 20, 655-658.	2.6	11
76	Novel approach to improve progesterone hydroxylation selectivity by CYP 106A2 via rational design of adrenodoxin binding. <i>FEBS Journal</i> , 2019, 286, 1240-1249.	4.7	11
77	Highly regio- and stereoselective hydroxylation of vitamin D2 by CYP109E1. <i>Biochemical and Biophysical Research Communications</i> , 2020, 524, 295-300.	2.1	11
78	Structural characterization of CYP260A1 from <i>Sorangium cellulosum</i> to investigate the 11 $\beta$ -hydroxylation of a mineralocorticoid. <i>FEBS Letters</i> , 2016, 590, 4638-4648.	2.8	10
79	Resurrection and characterization of ancestral CYP11A1 enzymes. <i>FEBS Journal</i> , 2021, 288, 6510-6527.	4.7	10
80	Sesquiterpenoids Produced by Combining Two Sesquiterpene Cyclases with Promiscuous Myxobacterial CYP260B1. <i>ChemBioChem</i> , 2019, 20, 677-682.	2.6	9
81	An indole $\beta$ -deficient <i>Escherichia coli</i> strain improves screening of cytochromes P450 for biotechnological applications. <i>Biotechnology and Applied Biochemistry</i> , 2017, 64, 315-326.	3.1	8
82	Improvement of a P450-Based Recombinant <i>Escherichia coli</i> Whole-Cell System for the Production of Oxygenated Sesquiterpene Derivatives. <i>Journal of Agricultural and Food Chemistry</i> , 2017, 65, 3891-3899.	5.2	8
83	Characterization of the Stereoselective P450 Enzyme BotCYP Enables the <i>In Vitro</i> Biosynthesis of the Botromycin Core Scaffold. <i>Journal of the American Chemical Society</i> , 2020, 142, 20560-20565.	13.7	8
84	HIV Drug Efavirenz Inhibits CYP21A2 Activity with Possible Clinical Implications. <i>Hormone Research in Paediatrics</i> , 2019, 91, 262-270.	1.8	6
85	Expanding the promoter toolbox of <i>Bacillus megaterium</i> . <i>Journal of Biotechnology</i> , 2019, 294, 38-48.	3.8	6
86	Underestimated reactions and regulation patterns of adrenal cytochromes P450. <i>Molecular and Cellular Endocrinology</i> , 2021, 530, 111237.	3.2	6
87	Human CYP27A1 catalyzes hydroxylation of 12-sitosterol and ergosterol. <i>Biological Chemistry</i> , 2016, 397, 513-518.	2.5	5
88	Characterization of a thermophilic cytochrome P450 of the CYP203A subfamily from Binh Chau hot spring in Vietnam. <i>FEBS Open Bio</i> , 2021, 11, 124-132.	2.3	5
89	Improvement of the 25-hydroxyvitamin D3 production in a CYP109A2-expressing <i>Bacillus megaterium</i> system. <i>Journal of Biotechnology</i> , 2021, 325, 355-359.	3.8	5
90	Functionalized poly(3-hydroxybutyric acid) bodies as new in vitro biocatalysts. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2018, 1866, 52-59.	2.3	4

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91	Identification and circumvention of bottlenecks in CYP21A2-mediated premedrol production using recombinant <i>Escherichia coli</i> . <i>Biotechnology and Bioengineering</i> , 2020, 117, 901-911.	3.3	4
92	A Novel Thermostable Cytochrome P450 from Sequence-Based Metagenomics of Binh Chau Hot Spring as a Promising Catalyst for Testosterone Conversion. <i>Catalysts</i> , 2020, 10, 1083.	3.5	4
93	An Isotopic Labelling Strategy to Study Cytochrome P450 Oxidations of Terpenes. <i>ChemBioChem</i> , 2018, 19, 1498-1501.	2.6	3
94	The impact of the clinical CYP11B2 mutation V386A strongly depends on the enzyme's genetic background. <i>Endocrine Journal</i> , 2017, 64, 457-461.	1.6	2
95	Structural insights into oxidation of medium-chain fatty acids and flavanone by myxobacterial cytochrome P450 CYP267B1. <i>Biochemical Journal</i> , 2018, 475, 2801-2817.	3.7	2
96	Mixed-culture fermentation for enhanced C21-hydroxylation of glucocorticoids. <i>Journal of Biotechnology</i> , 2020, 314-315, 14-24.	3.8	2
97	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. <i>Spectrochimica Acta - Part A: Molecular and Biomolecular Spectroscopy</i> , 2017, 183, 298-305.	3.9	1
98	Metabolism of oral turinabol by the human brain cholesterol 24-hydroxylase CYP46A1. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2021, 212, 105927.	2.5	0