

Frank Hannemann

List of Publications by Year in descending order

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72
papers

3,118
citations

159525

30
h-index

161767

54
g-index

72
all docs

72
docs citations

72
times ranked

2682
citing authors

#	ARTICLE	IF	CITATIONS
1	Cytochrome P450 systemsâ€™ biological variations of electron transport chains. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2007, 1770, 330-344.	1.1	633
2	Humans possess two mitochondrial ferredoxins, Fdx1 and Fdx2, with distinct roles in steroidogenesis, heme, and Fe/S cluster biosynthesis. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 11775-11780.	3.3	279
3	Adrenodoxin: Structure, stability, and electron transfer properties. <i>Proteins: Structure, Function and Bioinformatics</i> , 2000, 40, 590-612.	1.5	194
4	Dynamics in a Pure Encounter Complex of Two Proteins Studied by Solution Scattering and Paramagnetic NMR Spectroscopy. <i>Journal of the American Chemical Society</i> , 2008, 130, 6395-6403.	6.6	96
5	Towards Preparative Scale Steroid Hydroxylation with Cytochrome P450 Monooxygenase CYP106A2. <i>ChemBioChem</i> , 2010, 11, 713-721.	1.3	81
6	Cellular surface display of dimeric Adx and whole cell P450-mediated steroid synthesis on <i>E. coli</i> . <i>Journal of Biotechnology</i> , 2002, 95, 257-268.	1.9	74
7	Design of an <i>Escherichia coli</i> system for whole cell mediated steroid synthesis and molecular evolution of steroid hydroxylases. <i>Journal of Biotechnology</i> , 2006, 124, 172-181.	1.9	64
8	A Solution Model of the Complex Formed by Adrenodoxin and Adrenodoxin Reductase Determined by Paramagnetic NMR Spectroscopy. <i>Biochemistry</i> , 2010, 49, 6846-6855.	1.2	62
9	Efficient conversion of 11-deoxycortisol to cortisol (hydrocortisone) by recombinant fission yeast. <i>FEMS Yeast Research</i> , 2005, 5, 621-625.	1.1	60
10	Functional Display of Active Bovine Adrenodoxin on the Surface of <i>E. coli</i> by Chemical Incorporation of the [2Feâ€“2S] Cluster. <i>ChemBioChem</i> , 2001, 2, 695-701.	1.3	58
11	Intermolecular dynamics studied by paramagnetic tagging. <i>Journal of Biomolecular NMR</i> , 2009, 43, 247-254.	1.6	57
12	Regioselective hydroxylation of norisoprenoids by CYP109D1 from <i>Sorangium cellulosum</i> So ce56. <i>Applied Microbiology and Biotechnology</i> , 2010, 88, 485-495.	1.7	57
13	A New Electron Transport Mechanism in Mitochondrial Steroid Hydroxylase Systems Based on Structural Changes upon the Reduction of Adrenodoxinâ€™. <i>Biochemistry</i> , 2002, 41, 7969-7978.	1.2	56
14	A new <i>Bacillus megaterium</i> whole-cell catalyst for the hydroxylation of the pentacyclic triterpene 11-keto- β -boswellic acid (KBA) based on a recombinant cytochrome P450 system. <i>Applied Microbiology and Biotechnology</i> , 2012, 93, 1135-1146.	1.7	56
15	The CYP11B subfamily. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2015, 151, 38-51.	1.2	55
16	Identification of CYP106A2 as a Regioselective Allylic Bacterial Diterpene Hydroxylase. <i>ChemBioChem</i> , 2011, 12, 576-582.	1.3	54
17	Changing the Regioselectivity of a P450 from C15 to C11 Hydroxylation of Progesterone. <i>ChemBioChem</i> , 2012, 13, 1161-1166.	1.3	53
18	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.	6.2	50

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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.	1.7	45
20	Purification and functional characterization of human 11 β hydroxylase expressed in <i>Escherichia coli</i> . <i>FEBS Journal</i> , 2008, 275, 799-810.	2.2	44
21	The Interaction of Bovine Adrenodoxin with CYP11A1 (Cytochrome P450 _{scc}) and CYP11B1 (Cytochrome) Tj ETQq1.1 0.784314 rgBT 1.6 41	1.6	41
22	The adrenodoxin-like ferredoxin of <i>Schizosaccharomyces pombe</i> mitochondria. <i>Journal of Inorganic Biochemistry</i> , 2004, 98, 1229-1237.	1.5	40
23	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.	1.2	39
24	Genome Mining in <i>Sorangium cellulosum</i> So ce56. <i>Journal of Biological Chemistry</i> , 2009, 284, 28590-28598.	1.6	38
25	The Loop Region Covering the Iron-Sulfur Cluster in Bovine Adrenodoxin Comprises a New Interaction Site for Redox Partners. <i>Journal of Biological Chemistry</i> , 2001, 276, 1369-1375.	1.6	37
26	Autodisplay of functional CYP106A2 in <i>Escherichia coli</i> . <i>Journal of Biotechnology</i> , 2012, 161, 104-112.	1.9	36
27	A new cytochrome P450 system from <i>Bacillus megaterium</i> DSM319 for the hydroxylation of 11-keto- β -boswellic acid (KBA). <i>Applied Microbiology and Biotechnology</i> , 2014, 98, 1703-1717.	1.7	34
28	Characterization of the Gene Cluster CYP264B1-geoA from <i>Sorangium cellulosum</i> So ce56: Biosynthesis of (+)-Eremophilene and Its Hydroxylation. <i>ChemBioChem</i> , 2015, 16, 337-344.	1.3	32
29	Deletions in the loop surrounding the iron-sulfur cluster of adrenodoxin severely affect the interactions with its native redox partners adrenodoxin reductase and cytochrome P450 _{scc} (CYP11A1). <i>Journal of Inorganic Biochemistry</i> , 2002, 91, 644-654.	1.5	30
30	The endogenous adrenodoxin reductase-like flavoprotein arh1 supports heterologous cytochrome P450-dependent substrate conversions in <i>Schizosaccharomyces pombe</i> . <i>FEMS Yeast Research</i> , 2008, 8, 432-441.	1.1	30
31	Synthesis of amphiphilic, chalcogen-based redox modulators with in vitro cytotoxic activity against cancer cells, macrophages and microbes. <i>MedChemComm</i> , 2014, 5, 25-31.	3.5	30
32	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.	1.9	30
33	Unfolding and Conformational Studies on Bovine Adrenodoxin Probed by Engineered Intrinsic Tryptophan Fluorescence. <i>Biochemistry</i> , 2002, 41, 11008-11016.	1.2	29
34	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.	1.4	28
35	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.	1.9	24
36	Metabolism of Oral Turinabol by Human Steroid Hormone-Synthesizing Cytochrome P450 Enzymes. <i>Drug Metabolism and Disposition</i> , 2016, 44, 227-237.	1.7	23

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37	A CYP21A2 based whole-cell system in <i>Escherichia coli</i> for the biotechnological production of premedrol. <i>Microbial Cell Factories</i> , 2015, 14, 135.	1.9	21
38	A natural heme α -signature variant of CYP267A1 from <i>Sorangium cellulosum</i> So ce56 executes diverse 1α -hydroxylation. <i>FEBS Journal</i> , 2015, 282, 74-88.	2.2	21
39	CYP109E1 is a novel versatile statin and terpene oxidase from <i>Bacillus megaterium</i> . <i>Applied Microbiology and Biotechnology</i> , 2017, 101, 8379-8393.	1.7	21
40	Cyanobacterial electron carrier proteins as electron donors to CYP106A2 from <i>Bacillus megaterium</i> ATCC 13368. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2009, 1794, 1635-1642.	1.1	20
41	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.	2.0	20
42	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.	1.2	20
43	Aldosterone synthase deficiency caused by a homozygous L451F mutation in the CYP11B2 gene. <i>Molecular Genetics and Metabolism</i> , 2008, 93, 458-467.	0.5	19
44	Five novel mutations in CYP11B2 gene detected in patients with aldosterone synthase deficiency type I: Functional characterization and structural analyses. <i>Molecular Genetics and Metabolism</i> , 2010, 100, 357-364.	0.5	19
45	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.	1.9	17
46	Expression of human CYP27A1 in <i>B. megaterium</i> for the efficient hydroxylation of cholesterol, vitamin D3 and 7-dehydrocholesterol. <i>Journal of Biotechnology</i> , 2016, 218, 34-40.	1.9	17
47	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.	1.9	16
48	Direct and mediated electrochemical response of the cytochrome P450 106A2 from <i>Bacillus megaterium</i> ATCC 13368. <i>Bioelectrochemistry</i> , 2012, 87, 71-77.	2.4	16
49	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.	1.9	16
50	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.	1.9	16
51	Regioselective Acetylation of C21 Hydroxysteroids by the Bacterial Chloramphenicol Acetyltransferase I. <i>ChemBioChem</i> , 2015, 16, 1670-1679.	1.3	15
52	Biochemical and structural characterization of CYP109A2, a vitamin D ₃ 25-hydroxylase from <i>Bacillus megaterium</i> . <i>FEBS Journal</i> , 2017, 284, 3881-3894.	2.2	15
53	The interaction domain of the redox protein adrenodoxin is mandatory for binding of the electron acceptor CYP11A1, but is not required for binding of the electron donor adrenodoxin reductase. <i>Biochemical and Biophysical Research Communications</i> , 2005, 338, 491-498.	1.0	14
54	A new application of the yeast two-hybrid system in protein engineering. <i>Protein Engineering, Design and Selection</i> , 2007, 20, 117-123.	1.0	14

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55	The dipole moment of the electron carrier adrenodoxin is not critical for redox partner interaction and electron transfer. <i>Journal of Inorganic Biochemistry</i> , 2009, 103, 997-1004.	1.5	14
56	Characterization and engineering of a carotenoid biosynthesis operon from <i>Bacillus megaterium</i> . <i>Metabolic Engineering</i> , 2018, 49, 47-58.	3.6	14
57	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.	3.6	14
58	Self-association of adrenodoxin studied by using analytical ultracentrifugation. <i>Biophysical Chemistry</i> , 2007, 125, 159-165.	1.5	13
59	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.	1.3	13
60	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.	1.2	13
61	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.	1.5	11
62	Resurrection and characterization of ancestral CYP11A1 enzymes. <i>FEBS Journal</i> , 2021, 288, 6510-6527.	2.2	10
63	Light-Induced Reduction of Bovine Adrenodoxin via the Covalently Bound Ruthenium(II) Bipyridyl Complex: Intramolecular Electron Transfer and Crystal Structure. <i>Biochemistry</i> , 2006, 45, 709-718.	1.2	8
64	An indole-deficient <i>Escherichia coli</i> strain improves screening of cytochromes P450 for biotechnological applications. <i>Biotechnology and Applied Biochemistry</i> , 2017, 64, 315-326.	1.4	8
65	Alu Sx repeat-induced homozygous deletion of the StAR gene causes lipoid congenital adrenal hyperplasia. <i>Journal of Steroid Biochemistry and Molecular Biology</i> , 2012, 130, 1-6.	1.2	6
66	Expanding the promoter toolbox of <i>Bacillus megaterium</i> . <i>Journal of Biotechnology</i> , 2019, 294, 38-48.	1.9	6
67	Human CYP27A1 catalyzes hydroxylation of Δ^2 -sitosterol and ergosterol. <i>Biological Chemistry</i> , 2016, 397, 513-518.	1.2	5
68	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.	1.9	5
69	Functionalized poly(3-hydroxybutyric acid) bodies as new in vitro biocatalysts. <i>Biochimica Et Biophysica Acta - Proteins and Proteomics</i> , 2018, 1866, 52-59.	1.1	4
70	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.	1.7	4
71	Biocatalytic synthesis of 4-pregnen-20,21-diol-3-one, a selective inhibitor of human 5β -reductase type II. <i>Journal of Enzyme Inhibition and Medicinal Chemistry</i> , 2007, 22, 570-576.	2.5	2
72	Mixed-culture fermentation for enhanced C21-hydroxylation of glucocorticoids. <i>Journal of Biotechnology</i> , 2020, 314-315, 14-24.	1.9	2