Dmitri R Davydov

List of Publications by Year
in descending order

75	2,385	201575 27	214721 47
papers	citations	h-index	g-index

79	79	79	1776
all docs	docs citations	times ranked	citing authors

#	Article	IF	Citations
1	Mechanisms that regulate production of reactive oxygen species by cytochrome P450. Toxicology and Applied Pharmacology, 2004, 199, 316-331.	1.3	457
2	Allosteric P450 mechanisms: multiple binding sites, multiple conformers or both?. Expert Opinion on Drug Metabolism and Toxicology, 2008, 4, 1523-1535.	1.5	116
3	High-pressure-induced transitions in microsomal cytochrome P450 2B4 in solution: Evidence for conformational inhomogeneity in the oligomers. Archives of Biochemistry and Biophysics, 1995, 320, 330-344.	1.4	105
4	Kinetics of Dithionite-Dependent Reduction of Cytochrome P450 3A4:Â Heterogeneity of the Enzyme Caused by Its Oligomerizationâ€. Biochemistry, 2005, 44, 13902-13913.	1.2	87
5	Conformational heterogeneity of cytochrome P450 3A4 revealed by high pressure spectroscopy. Biochemical and Biophysical Research Communications, 2003, 312, 121-130.	1.0	76
6	Microsomal monooxygenase as a multienzyme system: the role of P450-P450 interactions. Expert Opinion on Drug Metabolism and Toxicology, 2011, 7, 543-558.	1.5	68
7	Peripheral Ligand-binding Site in Cytochrome P450 3A4 Located with Fluorescence Resonance Energy Transfer (FRET). Journal of Biological Chemistry, 2012, 287, 6797-6809.	1.6	65
8	Microsomal monooxygenase in apoptosis: another target for cytochrome c signaling?. Trends in Biochemical Sciences, 2001, 26, 155-160.	3.7	62
9	Pivotal role of P450â€“P450 interactions in CYP3A4 allostery: the case of Î±-naphthoflavone. Biochemical Journal, 2013, 453, 219-230.	1.7	60
10	Interactions among Cytochromes P450 in Microsomal Membranes. Journal of Biological Chemistry, 2015, 290, 3850-3864.	1.6	60
11	Mechanism of Interactions of Î±-Naphthoflavone with Cytochrome P450 3A4 Explored with an Engineered Enzyme Bearing a Fluorescent Probeâ€. Biochemistry, 2007, 46, 106-119.	1.2	59
12	Association of Cytochromes P450 with Their Reductases:Â Opposite Sign of the Electrostatic Interactions in P450BM-3 As Compared with the Microsomal 2B4 System. Biochemistry, 2000, 39, 6489-6497.	1.2	58
13	Resolution of Multiple Substrate Binding Sites in Cytochrome P450 3A4:Â The Stoichiometry of the Enzymeâ^'Substrate Complexes Probed by FRET and Job's Titrationâ€. Biochemistry, 2006, 45, 4199-4209.	1.2	51
14	Thermodynamic studies of substrate binding and spin transitions in human cytochrome P-450 3A4 expressed in yeast microsomes. Biochemical Journal, 1996, 319, 675-681.	1.7	49
15	Electron transfer in the complex of membrane-bound human cytochrome P450 3A4 with the flavin domain of P450BM-3: The effect of oligomerization of the heme protein and intermittent modulation of the spin equilibrium. Biochimica Et Biophysica Acta - Bioenergetics, 2010, 1797, 378-390.	0.5	47
16	Dynamics of Protein-Bound Water in the Heme Domain of P450BM3 Studied by High-Pressure Spectroscopy:â€‰ Comparison with P450cam and P450 2B4. Biochemistry, 1999, 38, 751-761.	1.2	46
17	Concurrent Cooperativity and Substrate Inhibition in the Epoxidation of Carbamazepine by Cytochrome P450 3A4 Active Site Mutants Inspired by Molecular Dynamics Simulations. Biochemistry, 2015, 54, 711-721.	1.2	42
18	Allosteric Mechanisms in Cytochrome P450 3A4 Studied by High-Pressure Spectroscopy:â€‰ Pivotal Role of Substrate-Induced Changes in the Accessibility and Degree of Hydration of the Heme Pocket. Biochemistry, 2007, 46, 7852-7864.	1.2	39

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19	Compressibility of the Heme Pocket of Substrate Analogue Complexes of Cytochrome P -450cam-CO. The Effect of Hydrostatic Pressure on the Soret Band. FEBS Journal, 1995, 233, 600-606.	0.2	38
20	ROLE OF CYTOCHROME B5 IN MODULATING PEROXIDE-SUPPORTED CYP3A4 ACTIVITY: EVIDENCE FOR A CONFORMATIONAL TRANSITION AND CYTOCHROME P450 HETEROGENEITY. Drug Metabolism and Disposition, 2005, 33, 1131-1136.	1.7	38
21	Structure and Function of the Cytochrome P450 Monooxygenase Cinnamate 4-hydroxylase from Sorghum bicolor. Plant Physiology, 2020, 183, 957-973.	2.3	36
22	Interactions of cytochrome P450 2B4 with NADPH-cytochrome P450 reductase studied by fluorescent probe. Biochimie, 1996, 78, 734-743.	1.3	35
23	High pressure induced inactivation of ferrous cytochrome P-450 LM2 (11B4) CO complex: Evidence for the presence of two conformers in the oligomer. Biochemical and Biophysical Research Communications, 1992, 188, 216-221.	1.0	33
24	Allosteric mechanisms in P450eryF probed with 1-pyrenebutanol, a novel fluorescent substrate. Biochemical and Biophysical Research Communications, 2002, 294, 806-812.	1.0	33
25	Stabilization of P450 2B4 by Its Association with P450 1A2 Revealed by High-Pressure Spectroscopy. Biochemical and Biophysical Research Communications, 2000, 276, 1005-1012.	1.0	31
26	An Electrostatically Driven Conformational Transition Is Involved in the Mechanisms of Substrate Binding and Cooperativity in Cytochrome P450eryFâ€. Biochemistry, 2004, 43, 6475-6485.	1.2	31
27	Resolution of Two Substrate-Binding Sites in an Engineered Cytochrome P450eryF Bearing a Fluorescent Probe. Biophysical Journal, 2005, 89, 418-432.	0.2	30
28	Role of subunit interactions in P450 oligomers in the loss of homotropic cooperativity in the cytochrome P450 3A4 mutant L211F/D214E/F304W. Archives of Biochemistry and Biophysics, 2007, 460, 129-140.	1.4	27
29	Comparative study of monomeric reconstituted and membrane microsomal monooxygenase systems of the rabbit liver. Archives of Biochemistry and Biophysics, 1992, 298, 403-412.	1.4	26
30	A Large-Scale Allosteric Transition in Cytochrome P450 3A4 Revealed by Luminescence Resonance Energy Transfer (LRET). PLoS ONE, 2013, 8, e83898.	1.1	26
31	Conformational Mobility in Cytochrome P450 3A4 Explored by Pressure-Perturbation EPR Spectroscopy. Biophysical Journal, 2016, 110, 1485-1498.	0.2	25
32	Association of Cytochromes P450 1A2 and 2B4: are the Interactions between Different p450 Species Involved in the Control of the Monooxygenase Activity and Coupling?. Advances in Experimental Medicine and Biology, 2001, 500, 335-338.	0.8	24
33	Kinetic studies on reduction of cytochromes P-450 and b5 by dithionite. FEBS Journal, 1985, 150, 155-159.	0.2	23
34	Effect of glutathione on homo- and heterotropic cooperativity in cytochrome P450 3A4. Archives of Biochemistry and Biophysics, 2008, 471, 134-145.	1.4	23
35	Allosteric Transitions in Cytochrome P450eryF Explored with Pressure-Perturbation Spectroscopy, Lifetime FRET, and a Novel Fluorescent Substrate, Fluorol-7GA. Biochemistry, 2008, 47, 11348-11359.	1.2	23
36	Rational engineering of cytochromes P450 2B6 and 2B11 for enhanced stability: Insights into structural importance of residue 334. Archives of Biochemistry and Biophysics, 2010, 494, 151-158.	1.4	23

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37	Cytochrome C (Fe2+) as a competitive inhibitor of NADPH-dependent reduction of cytochrome P450 LM2: Locating protein-protein interaction sites in microsomal electron carriers. Archives of Biochemistry and Biophysics, 1992, 297, 304-313.	1.4	22
38	Kinetics of electron transfer in the complex of cytochrome P450 3A4 with the flavin domain of cytochrome P450BM-3 as evidence of functional heterogeneity of the heme protein. Archives of Biochemistry and Biophysics, 2008, 471, 20-31.	1.4	22
39	Variable path length and counter-flow continuous variation methods for the study of the formation of high-affinity complexes by absorbance spectroscopy. An application to the studies of substrate binding in cytochrome P450. Biophysical Chemistry, 2006, 123, 95-101.	1.5	21
40	Toward a systems approach to the human cytochrome P450 ensemble: interactions between CYP2D6 and CYP2E1 and their functional consequences. Biochemical Journal, 2017, 474, 3523-3542.	1.7	21
41	Kinetics of soybean lipoxygenase reaction in hydrated reversed micelles. Biochimie, 1989, 71, 573-578.	1.3	19
42	A New Approach to the Study of Proteinâ^'Protein Interaction by FTIR:â€‰ Complex Formation between Cytochrome P450BM-3 Heme Domain and FMN Reductase Domain. Biochemistry, 2002, 41, 13514-13525.	1.2	18
43	Toward a systems approach to cytochrome P450 ensemble: interactions of CYP2E1 with other P450 species and their impact on CYP1A2. Biochemical Journal, 2019, 476, 3661-3685.	1.7	18
44	Random distribution of NADPH-specific flavoprotein and cytochrome P-450 in liver microsomes. Biochemical and Biophysical Research Communications, 1982, 109, 832-840.	1.0	15
45	Multiple substrate-binding sites are retained in cytochrome P450 3A4 mutants with decreased cooperativity. Xenobiotica, 2011, 41, 281-289.	0.5	15
46	The role of cytochrome P450 2B6 and 2B4 substrate access channel residues predicted based on crystal structures of the amlodipine complexes. Archives of Biochemistry and Biophysics, 2014, 545, 100-107.	1.4	15
47	Cytochrome P450 fromPhotobacterium profundumSS9, a Piezophilic Bacterium, Exhibits a Tightened Control of Water Access to the Active Site. Biochemistry, 2010, 49, 10636-10646.	1.2	13
48	Kinetic mechanism of time-dependent inhibition of CYP2D6 by 3,4-methylenedioxymethamphetamine (MDMA): Functional heterogeneity of the enzyme and the reversibility of its inactivation. Biochemical Pharmacology, 2018, 156, 86-98.	2.0	13
49	Molecular organization of the microsomal oxidative system: a new connotation for an old term. Biochemistry (Moscow) Supplement Series B: Biomedical Chemistry, 2016, 10, 10-21.	0.2	11
50	Effects of alcohol-induced increase in CYP2E1 content in human liver microsomes on the activity and cooperativity of CYP3A4. Archives of Biochemistry and Biophysics, 2021, 698, 108677.	1.4	11
51	Interaction of flavin mononucleotide with dimeric and tetrameric forms of muscle phosphorylase Î². Biochimie, 1991, 73, 1339-1343.	1.3	10
52	Reduction and catalytic properties of cytochrome P-450 LM2 in reconstituted system containing monomeric carriers. Biochemical and Biophysical Research Communications, 1987, 147, 1295-1299.	1.0	9
53	Pressure tolerance of deepâ€sea enzymes can be evolved through increasing volume changes in protein transitions: a study with lactate dehydrogenases from abyssal and hadal fishes. FEBS Journal, 2020, 287, 5394-5410.	2.2	9
54	CYP261 enzymes from deep sea bacteria: A clue to conformational heterogeneity in cytochromes P450. Biotechnology and Applied Biochemistry, 2013, 60, 30-40.	1.4	7

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55	Constrained water access to the active site of cytochrome P450 from the piezophilic bacteriumPhotobacterium profundum. High Pressure Research, 2010, 30, 466-474.	0.4	6
56	Aluminumâ€substituted heme domain of P450BMâ€3 (<scp>BMP</scp>): Introducing a hemeâ€derived fluorescent probe for studies of substrate binding and proteinâ€“protein interactions in cytochromes P450. Biotechnology and Applied Biochemistry, 2013, 60, 41-51.	1.4	6
57	Probing functional interactions between cytochromes P450 with principal component analysis of substrate saturation profiles and targeted proteomics. Archives of Biochemistry and Biophysics, 2021, 708, 108937.	1.4	6
58	Functional and structural insight into the flexibility of cytochrome P450 reductases from Sorghum bicolor and its implications for lignin composition. Journal of Biological Chemistry, 2022, 298, 101761.	1.6	6
59	Assembling the P450 puzzle: on the sources of nonadditivity in drug metabolism. Trends in Pharmacological Sciences, 2021, 42, 988-997.	4.0	5
60	Nonadditivity in human microsomal drug metabolism revealed in a study with coumarin 152, a polyspecific cytochrome P450 substrate. Xenobiotica, 2020, 50, 1393-1405.	0.5	4
61	Merging Thermodynamics and Evolution: How the Studies of High-Pressure Adaptation may Help to Understand Enzymatic Mechanisms. Journal of Thermodynamics & Catalysis, 2012, 03, .	0.2	3
62	Exploring the Interactome of Cytochrome P450 2E1 in Human Liver Microsomes with Chemical Crosslinking Mass Spectrometry. Biomolecules, 2022, 12, 185.	1.8	3
63	Conformational Rearrangements in the Redox Cycling of NADPH-Cytochrome P450 Reductase from Sorghum bicolor Explored with FRET and Pressure-Perturbation Spectroscopy. Biology, 2022, 11, 510.	1.3	3
64	A Pathfinder in High-Pressure Bioscience: In Memoriam of Gaston Hui Bon Hoa. Biology, 2021, 10, 778.	1.3	0
65	Dynamics of P450 3A4 Oligomers in Solution. FASEB Journal, 2006, 20, A458.	0.2	0
66	Allosteric mechanisms of substrate binding in cytochrome P450eryF studied by lifetime FRET and pressureâ€perturbation spectroscopy. FASEB Journal, 2008, 22, 234-234.	0.2	0
67	Displaced Conformational Equilibrium in a Piezophilic Cytochrome P450. FASEB Journal, 2010, 24, 512.6.	0.2	0
68	Structural importance of residue 334 in the stability of cytochromes P450 2B6 and 2B11. FASEB Journal, 2010, 24, 967.14.	0.2	0
69	Kinetics of substrate binding to human Cytochrome P450 3A4: A study with Fluorolâ€7GA, a fluorescent allosteric ligand. FASEB Journal, 2010, 24, 512.5.	0.2	0
70	Peripheral Ligand Binding and Allostery in Cytochrome P450 3A4. FASEB Journal, 2012, 26, 784.7.	0.2	0
71	Ligandâ€induced conformational changes in cytochrome P450 3A4 detected by luminescence resonance energy transfer (LRET). FASEB Journal, 2012, 26, 784.4.	0.2	0
72	Highâ€pressure Adaptation in Piezotolerant Enzymes Studied with Cytochromes P450 from Deepâ€Sea Bacteria. FASEB Journal, 2012, 26, 959.4.	0.2	0

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73	Exploring enzyme conformational landscape with pressureâ€perturbation: allosteric rearrangements in P450 3A4 revealed with FRET and SDSLâ€EPR (769.16). FASEB Journal, 2014, 28, 769.16.	0.2	0
74	Towards a System Approach to the Human Cytochrome P450 Ensemble: A New Strategy for Studying the Network of P450â€P450 Interactions in Human Liver Microsomes. FASEB Journal, 2018, 32, 564.5.	0.2	0
75	Crosstalk between CYP2E1 and CYP3A enzymes and its Possible Involvement in Alcoholâ€Drug Interactions.. FASEB Journal, 2020, 34, 1-1.	0.2	0