Ludmil T Benov

List of Publications by Year
in descending order

95 papers	4,185 citations	109137 35 h-index	118652 62 g-index
106 all docs	106 docs citations	106 times ranked	4359 citing authors

#	Article	IF	Citations
1	Critical evaluation of the use of hydroethidine as a measure of superoxide anion radical. Free Radical Biology and Medicine, 1998, 25, 826-831.	1.3	450
2	Photodynamic Therapy: Current Status and Future Directions. Medical Principles and Practice, 2015, 24, 14-28.	1.1	312
3	Relationship among Redox Potentials, Proton Dissociation Constants of Pyrrolic Nitrogens, and in Vivo and in Vitro Superoxide Dismutating Activities of Manganese(III) and Iron(III) Water-Soluble Porphyrins. Inorganic Chemistry, 1999, 38, 4011-4022.	1.9	251
4	The Ortho Effect Makes Manganese(III)Meso-Tetrakis(N-Methylpyridinium-2-yl)Porphyrin a Powerful and Potentially Useful Superoxide Dismutase Mimic. Journal of Biological Chemistry, 1998, 273, 24521-24528.	1.6	243
5	Relationship between the hemolytic action of heavy metals and lipid peroxidation. Biochimica Et Biophysica Acta - Biomembranes, 1981, 640, 721-726.	1.4	130
6	Diverse functions of cationic Mn(III) N-substituted pyridylporphyrins, recognized as SOD mimics. Free Radical Biology and Medicine, 2011, 51, 1035-1053.	1.3	122
7	Pure MnTBAP selectively scavenges peroxynitrite over superoxide: Comparison of pure and commercial MnTBAP samples to MnTE-2-PyP in two models of oxidative stress injury, an SOD-specific Escherichia coli model and carrageenan-induced pleurisy. Free Radical Biology and Medicine, 2009, 46, 192-201.	1.3	119
8	How superoxide radical damages the cell. Protoplasma, 2001, 217, 33-36.	1.0	95
9	Effect of Molecular Characteristics on Cellular Uptake, Subcellular Localization, and Phototoxicity of Zn(II) N-Alkylpyridylporphyrins. Journal of Biological Chemistry, 2013, 288, 36579-36588.	1.6	77
10	Superoxide dismutase protects against aerobic heat shock in Escherichia coli. Journal of Bacteriology, 1995, 177, 3344-3346.	1.0	71
11	A comprehensive evaluation of catalase-like activity of different classes of redox-active therapeutics. Free Radical Biology and Medicine, 2015, 86, 308-321.	1.3	71
12	Induction of the soxRS Regulon of Escherichia coli by Superoxide. Journal of Biological Chemistry, 1999, 274, 9479-9481.	1.6	70
13	A new SOD mimic, Mn(III) ortho N-butoxyethylpyridylporphyrin, combines superb potency and lipophilicity with low toxicity. Free Radical Biology and Medicine, 2012, 52, 1828-1834.	1.3	70
14	Why Superoxide Imposes an Aromatic Amino Acid Auxotrophy onEscherichia coli. Journal of Biological Chemistry, 1999, 274, 4202-4206.	1.6	69
15	Copper, Zinc Superoxide Dismutase in Escherichia coli: Periplasmic Localization. Archives of Biochemistry and Biophysics, 1995, 319, 508-511.	1.4	60
16	Differential Coordination Demands in Fe versus Mn Water-Soluble Cationic Metalloporphyrins Translate into Remarkably Different Aqueous Redox Chemistry and Biology. Inorganic Chemistry, 2013, 52, 5677-5691.	1.9	60
17	High Lipophilicity of meta Mn(III)N-Alkylpyridylporphyrin-Based Superoxide Dismutase Mimics Compensates for Their Lower Antioxidant Potency and Makes Them as Effective as Ortho Analogues in Protecting Superoxide Dismutase-DeficientEscherichia coli. Journal of Medicinal Chemistry, 2009, 52, 7868-7872.	2.9	59
18	A Superoxide-Dismutase Mimic Protects SodA SodB Escherichia coli against Aerobic Heating and Stationary-Phase Death. Archives of Biochemistry and Biophysics, 1995, 322, 291-294.	1.4	58

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19	Anticancer therapeutic potential of Mn porphyrin/ascorbate system. Free Radical Biology and Medicine, 2015, 89, 1231-1247.	1.3	56
20	The effect of lead on hemoglobin-catalyzed lipid peroxidation. Lipids and Lipid Metabolism, 1981, 664, 453-459.	2.6	55
21	Manganese supplementation relieves the phenotypic deficits seen in superoxide-dismutase-null Escherichia coli. Archives of Biochemistry and Biophysics, 2002, 402, 104-109.	1.4	55
22	Impact of electrostatics in redox modulation of oxidative stress by Mn porphyrins: Protection of SOD-deficient Escherichia coli via alternative mechanism where Mn porphyrin acts as a Mn carrier. Free Radical Biology and Medicine, 2008, 45, 201-210.	1.3	55
23	Thiol antidotes effect on lipid peroxidation in mercury-poisoned rats. Chemico-Biological Interactions, 1990, 76, 321-332.	1.7	51
24	The Mechanism of the Auxotrophy for Sulfur-containing Amino Acids Imposed upon Escherichia coli by Superoxide. Journal of Biological Chemistry, 1996, 271, 21037-21040.	1.6	51
25	Effect of growth media on the MTT colorimetric assay in bacteria. PLoS ONE, 2019, 14, e0219713.	1.1	51
26	Simple Biological Systems for Assessing the Activity of Superoxide Dismutase Mimics. Antioxidants and Redox Signaling, 2014, 20, 2416-2436.	2.5	48
27	SOD-like activity of Mn(II) Î²-octabromo-meso-tetrakis(N-methylpyridinium-3-yl)porphyrin equals that of the enzyme itself. Archives of Biochemistry and Biophysics, 2008, 477, 105-112.	1.4	46
28	Growth in Iron-enriched Medium Partially Compensates Escherichia coli for the Lack of Manganese and Iron Superoxide Dismutase. Journal of Biological Chemistry, 1998, 273, 10313-10316.	1.6	45
29	Redox modulation of oxidative stress by Mn porphyrin-based therapeutics: The effect of charge distribution. Dalton Transactions, 2008, , 1233.	1.6	44
30	Important cellular targets for antimicrobial photodynamic therapy. Applied Microbiology and Biotechnology, 2016, 100, 7679-7688.	1.7	44
31	Rational Design of Superoxide Dismutase (SOD) Mimics: The Evaluation of the Therapeutic Potential of New Cationic Mn Porphyrins with Linear and Cyclic Substituents. Inorganic Chemistry, 2014, 53, 11467-11483.	1.9	43
32	Sublethal Photodynamic Treatment Does Not Lead to Development of Resistance. Frontiers in Microbiology, 2018, 9, 1699.	1.5	42
33	Isomeric N-alkylpyridylporphyrins and their Zn(II) complexes: inactive as SOD mimics but powerful photosensitizers. Archives of Biochemistry and Biophysics, 2002, 402, 159-165.	1.4	40
34	Optimizing Zn porphyrin-based photosensitizers for efficient antibacterial photodynamic therapy. Photodiagnosis and Photodynamic Therapy, 2017, 17, 154-159.	1.3	38
35	Escherichia coli exhibits negative chemotaxis in gradients of hydrogen peroxide, hypochlorite, and N-chlorotaurine: products of the respiratory burst of phagocytic cells.. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 4999-5002.	3.3	37
36	A Manganese porphyrin suppresses oxidative stress and extends the life span of streptozotocin-diabetic rats. Free Radical Research, 2005, 39, 81-88.	1.5	37

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37	A Combination of Two Antioxidants (An SOD Mimic and Ascorbate) Produces a Pro-Oxidative Effect Forcing Escherichia coli to Adapt Via Induction of oxyR Regulon. Anti-Cancer Agents in Medicinal Chemistry, 2011, 11, 329-340.	0.9	37
38	Possible role of antioxidative capacity of (âˆ’)-epigallocatechin-3-gallate treatment in morphological and neurobehavioral recovery after sciatic nerve crush injury. Journal of Neurosurgery: Spine, 2017, 27, 593-613.	0.9	34
39	Methoxy-derivatization of alkyl chains increases the in vivo efficacy of cationic Mn porphyrins. Synthesis, characterization, SOD-like activity, and SOD-deficient E. coli study of meta Mn(iii) N-methoxyalkylpyridylporphyrins. Dalton Transactions, 2011, 40, 4111.	1.6	33
40	Targeting Mitochondria by Zn(II)N-Alkylpyridylporphyrins: The Impact of Compound Sub-Mitochondrial Partition on Cell Respiration and Overall Photodynamic Efficacy. PLoS ONE, 2014, 9, e108238.	1.1	33
41	Amphiphilic cationic Zn-porphyrins with high photodynamic antimicrobial activity. Future Microbiology, 2015, 10, 709-724.	1.0	33
42	Cationic amphiphilic Zn-porphyrin with high antifungal photodynamic potency. Photochemical and Photobiological Sciences, 2017, 16, 1709-1716.	1.6	31
43	Bioavailability of metalloporphyrin-based SOD mimics is greatly influenced by a single charge residing on a Mn site. Free Radical Research, 2011, 45, 188-200.	1.5	30
44	Radiation-Mediated Tumor Growth Inhibition Is Significantly Enhanced with Redox-Active Compounds That Cycle with Ascorbate. Antioxidants and Redox Signaling, 2018, 29, 1196-1214.	2.5	30
45	Disrupting Escherichia coli: A Comparison of Methods. BMB Reports, 2002, 35, 428-431.	1.1	30
46	Functional Significance of the Cu,ZnSOD inEscherichia coli. Archives of Biochemistry and Biophysics, 1996, 327, 249-253.	1.4	29
47	52 Chemistry, Biology and Medical Effects of Water-Soluble Metalloporphyrins. Handbook of Porphyrin Science, 2011, , 291-393.	0.3	28
48	Purification and characterization of the Cu,Zn SOD from Escherichia coli. Free Radical Biology and Medicine, 1996, 21, 117-121.	1.3	26
49	The rate of adaptive mutagenesis in Escherichia coli is enhanced by oxygen (superoxide). Mutation Research - Fundamental and Molecular Mechanisms of Mutagenesis, 1996, 357, 231-236.	0.4	25
50	Superoxide-dependence of the short chain sugars-induced mutagenesis. Free Radical Biology and Medicine, 2003, 34, 429-433.	1.3	25
51	Hemolysis and peroxidation in heavy metal-treated erythrocytes; GSH content and activities of some protecting enzymes. Experientia, 1982, 38, 1354-1355.	1.2	24
52	The Copper- and Zinc-Containing Superoxide Dismutase fromEscherichia coli:Molecular Weight and Stability. Archives of Biochemistry and Biophysics, 1997, 340, 305-310.	1.4	23
53	Superoxide Dependence of the Toxicity of Short Chain Sugars. Journal of Biological Chemistry, 1998, 273, 25741-25744.	1.6	23
54	An SOD mimic protects NADP⁺-dependent isocitrate dehydrogenase against oxidative inactivation. Free Radical Research, 2008, 42, 618-624.	1.5	22

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55	Induction of oxidative cell damage by photo-treatment with zincmetaN-methylpyridylporphyrin. Free Radical Research, 2007, 41, 89-96.	1.5	20
56	The Potential of Zn(II) N-Alkylpyridylporphyrins for Anticancer Therapy. Anti-Cancer Agents in Medicinal Chemistry, 2011, 11, 233-241.	0.9	20
57	Protein damage by photo-activated Zn(II) N-alkylpyridylporphyrins. Amino Acids, 2012, 42, 117-128.	1.2	20
58	Late administration of Mn porphyrin-based SOD mimic enhances diabetic complications. Redox Biology, 2013, 1, 457-466.	3.9	20
59	Synthesis and biological evaluation of novel 5-(hydroxamic acid)methyl oxazolidinone derivatives. European Journal of Medicinal Chemistry, 2015, 106, 120-131.	2.6	20
60	Is reduction of the sulfonated tetrazolium 2,3-bis (2-methoxy-4-nitro-5-sulfophenyl)-2-tetrazolium 5-carboxanilide a reliable measure of intracellular superoxide production?. Analytical Biochemistry, 2002, 310, 186-190.	1.1	19
61	Glycolaldehyde induces apoptosis in a human breast cancer cell line. Archives of Biochemistry and Biophysics, 2003, 417, 123-127.	1.4	19
62	Glycolaldehyde induces growth inhibition and oxidative stress in human breast cancer cells*. Free Radical Biology and Medicine, 2006, 40, 1144-1151.	1.3	19
63	Superoxide Imposes Leakage of Sulfite fromEscherichia coli. Archives of Biochemistry and Biophysics, 1997, 347, 271-274.	1.4	18
64	Effect of potent redox-modulating manganese porphyrin, MnTM-2-PyP, on the Na+/H+exchangers NHE-1 and NHE-3 in the diabetic rat. Redox Report, 2009, 14, 236-242.	1.4	18
65	Is there a role for neurotrophic factors and their receptors in augmenting the neuroprotective effect of (â˜)-epigallocatechin-3-gallate treatment of sciatic nerve crush injury?. Neuropharmacology, 2016, 102, 1-20.	2.0	18
66	Photosensitizing action of isomeric zincN-methylpyridylporphyrins in human carcinoma cells. Free Radical Research, 2006, 40, 477-483.	1.5	17
67	Induction of the soxRS regulon of Escherichia coli by glycolaldehyde. Archives of Biochemistry and Biophysics, 2002, 407, 45-48.	1.4	16
68	Hemoglobin-catalyzed lipid peroxidation in the presence of mercuric chloride. Chemico-Biological Interactions, 1983, 45, 105-112.	1.7	14
69	Polyphosphate accumulation and oxidative DNA damage in superoxide dismutase-deficient Escherichia coli. Free Radical Biology and Medicine, 2001, 31, 1352-1359.	1.3	13
70	Role of rpoS in the regulation of glyoxalase III in Escherichia coli.. Acta Biochimica Polonica, 2004, 51, 857-860.	0.3	12
71	Improved Formazan Dissolution for Bacterial MTT Assay. Microbiology Spectrum, 2021, 9, e0163721.	1.2	12
72	Evaluation of the monoamine oxidases inhibitory activity of a small series of 5-(azole)methyl oxazolidinones. European Journal of Pharmaceutical Sciences, 2015, 71, 56-61.	1.9	11

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73	The antioxidant activity of Flavonoids Isolated fromCorylus colurna. Phytotherapy Research, 1994, 8, 92-94.	2.8	10
74	Inactivation of metabolic enzymes by photo-treatment with zinc meta N-methylpyridylporphyrin. Biochimica Et Biophysica Acta - General Subjects, 2007, 1770, 1520-1527.	1.1	10
75	Antibacterial Activity of Synthetic Cationic Iron Porphyrins. Antioxidants, 2020, 9, 972.	2.2	10
76	Possible contribution of oxyhemoglobin to the iron-induced hemolysis simultaneous effect of iron and hemoglobin on lipid peroxidation. Blut, 1983, 46, 217-225.	1.2	9
77	HgCl2 increases the methemoglobin prooxidant activity. Possible mechanism of Hg2+-induced lipid peroxidation in erythrocytes. Chemico-Biological Interactions, 1984, 50, 111-119.	1.7	8
78	An Anionic Impurity in Preparations of Cytochrome c Interferes with Assays of Cationic Catalysts of the Dismutation of the Superoxide Anion Radical. Analytical Biochemistry, 1999, 275, 267.	1.1	8
79	Triosephosphates are toxic to superoxide dismutase-deficient Escherichia coli. Biochimica Et Biophysica Acta - General Subjects, 2003, 1622, 128-132.	1.1	8
80	The Contribution of Superoxide Radical to Cadmium Toxicity in E. coli. Biological Trace Element Research, 2018, 181, 361-368.	1.9	8
81	Post-illumination cellular effects of photodynamic treatment. PLoS ONE, 2017, 12, e0188535.	1.1	8
82	Escherichia colî”furmutant displays low HPII catalase activity in stationary phase. Redox Report, 2003, 8, 379-383.	1.4	7
83	Growth of Escherichia coli in Iron-enriched Medium Increases HPI Catalase Activity. BMB Reports, 2003, 36, 608-610.	1.1	6
84	Methylene blue induces the soxRS regulon of Escherichia coli. Chemico-Biological Interactions, 2020, 329, 109222.	1.7	5
85	A chemiluminescence method for determination of lipid hydroperoxides.. Journal of Clinical Biochemistry and Nutrition, 1990, 8, 165-173.	0.6	4
86	Glycerol metabolism in superoxide dismutase-deficientEscherichia coli. Free Radical Research, 2001, 35, 867-872.	1.5	3
87	Initiation of lipid peroxidation in lysosomal membranes by activated blood polymorphonuclear leukocytes. Bulletin of Experimental Biology and Medicine, 1988, 105, 799-802.	0.3	2
88	Fe porphyrins Revisited: Synthesis, Characterization and the Effects of Ortho and Meta Fe(III) N-Alkylpyridylporphyrins Upon the Growth of E. Coli in the Presence and Absence of Ascorbate. Free Radical Biology and Medicine, 2011, 51, S99.	1.3	2
89	Timely Administration of Mn porphyrin, MnTM-2PyP5+ is Critical to Afford Protection in Diabetes: a Rat Study. Free Radical Biology and Medicine, 2011, 51, S90.	1.3	1
90	Ascorbate-dependent and ascorbate-independent Mn porphyrin cytotoxicity: anticancer activity of Mn porphyrin-based SOD mimics through ascorbate-dependent and -independent routes. Redox Report, 2021, 26, 85-93.	1.4	1

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91	A chemiluminescent investigation of the interaction of red cell membranes with thiol compounds. Bioelectrochemistry, 1992, 27, 53-56.	1.0	0
92	ON THE HEAVY METAL COMPOUNDS HEMOLYTIC ACTION. Acta Pharmacologica Et Toxicologica, 1986, 59, 478-481.	0.0	0
93	SOME INVESTIGATIONS ON THE Zn(II)â€RED BLOOD CELL INTERACTION. Acta Pharmacologica Et Toxicologica, 1986, 59, 482-485.	0.0	0
94	Comments on â€˜The Effect of Training Type on Oxidative DNA Damage and Antioxidant Capacity during Three-Dimensional Space Exerciseâ€™. Medical Principles and Practice, 2011, 20, 493-494.	1.1	0
95	Effects of alkyl chain length of Zn Nâ€alkylpyridylporphyrins on photoâ€mediated protein crosslinking. FASEB Journal, 2012, 26, 755.2.	0.2	0