Leo E Otterbein

List of Publications by Year
in descending order

114 papers	14,743 citations	28190 55 h-index	22764 112 g-index
132 all docs	132 docs citations	132 times ranked	12686 citing authors

#	Article	IF	Citations
1	Extracellular mitochondria drive CD8 T cell dysfunction in trauma by upregulating CD39. Thorax, 2023, 78, 151-159.	2.7	6
2	NO, CO and H2S: A trinacrium of bioactive gases in the brain. Biochemical Pharmacology, 2022, 202, 115122.	2.0	17
3	Delivery of therapeutic carbon monoxide by gas-entrapping materials. Science Translational Medicine, 2022, 14, .	5.8	21
4	Monocyte exocytosis of mitochondrial danger-associated molecular patterns in sepsis suppresses neutrophil chemotaxis. Journal of Trauma and Acute Care Surgery, 2021, 90, 46-53.	1.1	20
5	Adapting decarbonylation chemistry for the development of prodrugs capable of in vivo delivery of carbon monoxide utilizing sweeteners as carrier molecules. Chemical Science, 2021, 12, 10649-10654.	3.7	23
6	Skeletal muscle heme oxygenase-1 activity regulates aerobic capacity. Cell Reports, 2021, 35, 109018.	2.9	18
7	Carbon Monoxide: from Poison to Clinical Trials. Trends in Pharmacological Sciences, 2021, 42, 329-339.	4.0	46
8	Carbon Monoxide Suppresses Neointima Formation in Transplant Arteriosclerosis by Inhibiting Vascular Progenitor Cell Differentiation. Arteriosclerosis, Thrombosis, and Vascular Biology, 2021, 41, 1915-1927.	1.1	0
9	Trauma-induced heme release increases susceptibility to bacterial infection. JCI Insight, 2021, 6, .	2.3	13
10	Carbon monoxide and a change of heart. Redox Biology, 2021, 48, 102183.	3.9	12
11	Carbon monoxide: An emerging therapy for acute kidney injury. Medicinal Research Reviews, 2020, 40, 1147-1177.	5.0	45
12	Formyl Peptide Receptor-1 Blockade Prevents Receptor Regulation by Mitochondrial Danger-Associated Molecular Patterns and Preserves Neutrophil Function After Trauma. Critical Care Medicine, 2020, 48, e123-e132.	0.4	20
13	Multiplexed Plasma Immune Mediator Signatures Can Differentiate Sepsis From NonInfective SIRS. Annals of Surgery, 2020, 272, 604-610.	2.1	10
14	Circulating Factors in Trauma Plasma Activate Specific Human Immune Cell Subsets. Injury, 2020, 51, 819-829.	0.7	8
15	Characterization of pulmonary immune responses to hyperoxia by high-dimensional mass cytometry analyses. Scientific Reports, 2020, 10, 4677.	1.6	12
16	HO-1 and CD39: It Takes Two to Protect the Realm. Frontiers in Immunology, 2019, 10, 1765.	2.2	17
17	Conquering Radicals with a Sense of Humor. Cell Chemical Biology, 2019, 26, 1335-1337.	2.5	0
18	Caveolin-1 selectively regulates microRNA sorting into microvesicles after noxious stimuli. Journal of Experimental Medicine, 2019, 216, 2202-2220.	4.2	147

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19	Deletion of Biliverdin Reductase A in Myeloid Cells Promotes Chemokine Expression and Chemotaxis in Part via a Complement C5aÂâ€“C5aR1 Pathway. Journal of Immunology, 2019, 202, 2982-2990.	0.4	16
20	Endotoxin Engages Mitochondrial Quality Controlviaan iNOS-Reactive Oxygen Species Signaling Pathway in Hepatocytes. Oxidative Medicine and Cellular Longevity, 2019, 2019, 1-9.	1.9	13
21	Carbon monoxide protects the kidney through the central circadian clock and CD39. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E2302-E2310.	3.3	61
22	Clinical Implications of Hyperoxia. International Anesthesiology Clinics, 2018, 56, 68-79.	0.3	5
23	Mitochondrial DAMPs Are Released During Cardiopulmonary Bypass Surgery and Are Associated With Postoperative Atrial Fibrillation. Heart Lung and Circulation, 2018, 27, 122-129.	0.2	64
24	Oral carbon monoxide therapy in murine sickle cell disease: Beneficial effects on vaso-occlusion, inflammation and anemia. PLoS ONE, 2018, 13, e0205194.	1.1	37
25	Danger signals from mitochondrial DAMPS in trauma and post-injury sepsis. European Journal of Trauma and Emergency Surgery, 2018, 44, 317-324.	0.8	56
26	A subset of five human mitochondrial formyl peptides mimics bacterial peptides and functionally deactivates human neutrophils. Journal of Trauma and Acute Care Surgery, 2018, 85, 936-943.	1.1	27
27	Enrichment-triggered prodrug activation demonstrated through mitochondria-targeted delivery of doxorubicin and carbon monoxide. Nature Chemistry, 2018, 10, 787-794.	6.6	218
28	HIF-1Î±-induced xenobiotic transporters promote Th17 responses in Crohn's disease. Journal of Autoimmunity, 2018, 94, 122-133.	3.0	36
29	Where is the Clinical Breakthrough of Heme Oxygenase-1 / Carbon Monoxide Therapeutics?. Current Pharmaceutical Design, 2018, 24, 2264-2282.	0.9	36
30	The role of carbon monoxide and heme oxygenase in the prevention of sickle cell disease vasoâ€•occlusive crises. American Journal of Hematology, 2017, 92, 569-582.	2.0	33
31	Carbon Monoxide Preserves Circadian Rhythm to Reduce the Severity of Subarachnoid Hemorrhage in Mice. Stroke, 2017, 48, 2565-2573.	1.0	41
32	Lung Epithelial Cellâ€“Derived Microvesicles Regulate Macrophage Migration via MicroRNA-17/221â€“Induced Integrin Î²1 Recycling. Journal of Immunology, 2017, 199, 1453-1464.	0.4	79
33	Intraoperative oxygen concentration and neurocognition after cardiac surgery: study protocol for a randomized controlled trial. Trials, 2017, 18, 600.	0.7	18
34	Intratracheal instillation of neutrophils rescues bacterial overgrowth initiated by trauma damage-associated molecular patterns. Journal of Trauma and Acute Care Surgery, 2017, 82, 853-860.	1.1	11
35	Bilirubin suppresses Th17 immunity in colitis by upregulating CD39. JCI Insight, 2017, 2, .	2.3	67
36	Heme oxygenase and carbon monoxide protect from muscle dystrophy. Skeletal Muscle, 2016, 6, 41.	1.9	18

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37	Toward Carbon Monoxideâ€“Based Therapeutics: Critical Drug Delivery and Developability Issues. Journal of Pharmaceutical Sciences, 2016, 105, 406-416.	1.6	147
38	Heme Oxygenase-1 and Carbon Monoxide in the Heart. Circulation Research, 2016, 118, 1940-1959.	2.0	160
39	Update on Renal Replacement Therapy: Implantable Artificial Devices and Bioengineered Organs. Tissue Engineering - Part B: Reviews, 2016, 22, 330-340.	2.5	16
40	Alterations of tumor microenvironment by carbon monoxide impedes lung cancer growth. Oncotarget, 2016, 7, 23919-23932.	0.8	40
41	Metabolic control of type 1 regulatory T cell differentiation by AHR and HIF1-Î±. Nature Medicine, 2015, 21, 638-646.	15.2	374
42	Friend or foe? Carbon monoxide and the mitochondria. Frontiers in Physiology, 2015, 6, 17.	1.3	25
43	Innate immunity for better or worse govern the allograft response. Current Opinion in Organ Transplantation, 2015, 20, 8-12.	0.8	17
44	Heme as a danger molecule in pathogen recognition. Free Radical Biology and Medicine, 2015, 89, 651-661.	1.3	63
45	Microglia regulate blood clearance in subarachnoid hemorrhage by heme oxygenase-1. Journal of Clinical Investigation, 2015, 125, 2609-2625.	3.9	160
46	Heme oxygenase-1 in macrophages controls prostate cancer progression. Oncotarget, 2015, 6, 33675-33688.	0.8	44
47	Autoreactivity to Glucose Regulated Protein 78 Links Emphysema and Osteoporosis in Smokers. PLoS ONE, 2014, 9, e105066.	1.1	15
48	Carbon monoxide induces chromatin remodelling to facilitate endothelial cell migration. Thrombosis and Haemostasis, 2014, 111, 951-959.	1.8	19
49	Macrophages sense and kill bacteria through carbon monoxideâ€“dependent inflammasome activation. Journal of Clinical Investigation, 2014, 124, 4926-4940.	3.9	151
50	Heme oxygenase-1 and carbon monoxide regulate intestinal homeostasis and mucosal immune responses to the enteric microbiota. Gut Microbes, 2014, 5, 220-224.	4.3	40
51	Heme oxygenase-1 derived carbon monoxide permits maturation of myeloid cells. Cell Death and Disease, 2014, 5, e1139-e1139.	2.7	44
52	Heme Oxygenase-1: A Metabolic Nike. Antioxidants and Redox Signaling, 2014, 20, 1709-1722.	2.5	141
53	Biliverdin modulates the expression of C5aR in response to endotoxin in part via mTOR signaling. Biochemical and Biophysical Research Communications, 2014, 449, 94-99.	1.0	37
54	Eat to Heal: Natural Inducers of the Heme Oxygenase-1 System. AAPS Advances in the Pharmaceutical Sciences Series, 2014, , 243-256.	0.2	3

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55	Quoth the Raven: carbon monoxide and nothing more. Medical Gas Research, 2013, 3, 7.	1.2	9
56	Failure of Fibrotic Liver Regeneration in Mice Is Linked to a Severe Fibrogenic Response Driven by Hepatic Progenitor Cell Activation. American Journal of Pathology, 2013, 183, 182-194.	1.9	99
57	The social network of carbon monoxide in medicine. Trends in Molecular Medicine, 2013, 19, 3-11.	3.5	92
58	Carbon Monoxide and Heme Oxygenase-1 Prevent Intestinal Inflammation in Mice by Promoting Bacterial Clearance. Gastroenterology, 2013, 144, 789-798.	0.6	102
59	Patients with Idiopathic Pulmonary Fibrosis with Antibodies to Heat Shock Protein 70 Have Poor Prognoses. American Journal of Respiratory and Critical Care Medicine, 2013, 187, 768-775.	2.5	165
60	Pulmonary Natural Killer T Cells Play an Essential Role in Mediating Hyperoxic Acute Lung Injury. American Journal of Respiratory Cell and Molecular Biology, 2013, 48, 601-609.	1.4	33
61	Mitochondrial DAMPs Increase Endothelial Permeability through Neutrophil Dependent and Independent Pathways. PLoS ONE, 2013, 8, e59989.	1.1	172
62	Carbon Monoxide Abrogates Ischemic Insult to Neuronal Cells via the Soluble Guanylate Cyclase-cGMP Pathway. PLoS ONE, 2013, 8, e60672.	1.1	43
63	Biliverdin Protects against Liver Ischemia Reperfusion Injury in Swine. PLoS ONE, 2013, 8, e69972.	1.1	32
64	Carbon Monoxide and the Brain: Time to Rethink the Dogma. Current Pharmaceutical Design, 2013, 19, 2771-2775.	0.9	50
65	Carbon monoxide induces chromatin remodeling to facilitate endothelial cell migration. FASEB Journal, 2013, 27, lb105.	0.2	0
66	Activation of Peroxisome Proliferator-Activated Receptor Î³ Prolongs Islet Allograft Survival. Cell Transplantation, 2012, 21, 2111-2118.	1.2	4
67	Generation of Carbon Monoxide Releasing Molecules (CO-RMs) as Drug Candidates for the Treatment of Acute Liver Injury: Targeting of CO-RMs to the Liver. Organometallics, 2012, 31, 5810-5822.	1.1	78
68	Inhaled Carbon Monoxide Provides Cerebral Cytoprotection in Pigs. PLoS ONE, 2012, 7, e41982.	1.1	20
69	Go Green: The Anti-Inflammatory Effects of Biliverdin Reductase. Frontiers in Pharmacology, 2012, 3, 47.	1.6	109
70	Carbon Monoxide Induced PPARÎ³ SUMOylation and UCP2 Block Inflammatory Gene Expression in Macrophages. PLoS ONE, 2011, 6, e26376.	1.1	25
71	Carbon monoxide enhances early liver regeneration in mice after hepatectomy. Hepatology, 2011, 53, 2016-2026.	3.6	33
72	Heme oxygenase-1 and carbon monoxide modulate DNA repair through ataxia-telangiectasia mutated (ATM) protein. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14491-14496.	3.3	69

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73	Biliverdin inhibits Toll-like receptor-4 (TLR4) expression through nitric oxide-dependent nuclear translocation of biliverdin reductase. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 18849-18854.	3.3	91
74	Intraoperative Administration of Inhaled Carbon Monoxide Reduces Delayed Graft Function in Kidney Allografts in Swine. American Journal of Transplantation, 2010, 10, 2421-2430.	2.6	51
75	The therapeutic potential of carbon monoxide. Nature Reviews Drug Discovery, 2010, 9, 728-743.	21.5	1,304
76	Nitric Oxideâ€“Dependent Bone Marrow Progenitor Mobilization by Carbon Monoxide Enhances Endothelial Repair After Vascular Injury. Circulation, 2010, 121, 537-548.	1.6	106
77	Cell Surface Biliverdin Reductase Mediates Biliverdin-induced Anti-inflammatory Effects via Phosphatidylinositol 3-Kinase and Akt. Journal of Biological Chemistry, 2009, 284, 21369-21378.	1.6	93
78	The Evolution of Carbon Monoxide Into Medicine. Respiratory Care, 2009, 54, 925-932.	0.8	42
79	Heme oxygenase and carbon monoxide initiate homeostatic signaling. Journal of Molecular Medicine, 2008, 86, 267-279.	1.7	207
80	Cross-Regulation of Carbon Monoxide and the Adenosine A2a Receptor in Macrophages. Journal of Immunology, 2007, 178, 5921-5929.	0.4	47
81	Hypoxia-inducible factor 1Â stabilization by carbon monoxide results in cytoprotective preconditioning. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 5109-5114.	3.3	192
82	Carbon monoxide signals via inhibition of cytochrome c oxidase and generation of mitochondrial reactive oxygen species. FASEB Journal, 2007, 21, 1099-1106.	0.2	278
83	Inhaled carbon monoxide inhibits intimal hyperplasia and provides added benefit with nitric oxide. Journal of Vascular Surgery, 2006, 44, 151-158.	0.6	32
84	Carbon Monoxide Orchestrates a Protective Response through PPARÎ³. Immunity, 2006, 24, 601-610.	6.6	146
85	Carbon monoxide reverses established pulmonary hypertension. Journal of Experimental Medicine, 2006, 203, 2109-2119.	4.2	154
86	Endothelial STAT3 is essential for the protective effects of HOâ€1 in oxidantâ€induced lung injury. FASEB Journal, 2006, 20, 2156-2158.	0.2	98
87	Brief inhalation of low-dose carbon monoxide protects rodents and swine from postoperative ileus*. Critical Care Medicine, 2005, 33, 1317-1326.	0.4	96
88	Protection Against Ischemia/Reperfusion Injury in Cardiac and Renal Transplantation with Carbon Monoxide, Biliverdin and Both. American Journal of Transplantation, 2005, 5, 282-291.	2.6	227
89	Carbon monoxide protects against the development of experimental necrotizing enterocolitis. American Journal of Physiology - Renal Physiology, 2005, 289, G607-G613.	1.6	69
90	Biliverdin administration protects against endotoxin-induced acute lung injury in rats. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2005, 289, L1131-L1137.	1.3	185

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91	Carbon monoxide pretreatment prevents respiratory derangement and ameliorates hyperacute endotoxic shock in pigs. FASEB Journal, 2005, 19, 2045-2047.	0.2	102
92	Carbon monoxide prevents multiple organ injury in a model of hemorrhagic shock and resuscitation. Shock, 2005, 23, 527-32.	1.0	64
93	Carbon monoxide increases macrophage bacterial clearance through Toll-like receptor (TLR)4 expression. Cellular and Molecular Biology, 2005, 51, 433-40.	0.3	39
94	Protection of transplant-induced renal ischemia-reperfusion injury with carbon monoxide. American Journal of Physiology - Renal Physiology, 2004, 287, F979-F989.	1.3	169
95	Carbon Monoxide Promotes Fas/CD95-induced Apoptosis in Jurkat Cells. Journal of Biological Chemistry, 2004, 279, 44327-44334.	1.6	66
96	Heme oxygenaseâ€1â€derived carbon monoxide protects hearts from transplantâ€associated ischemia reperfusion injury. FASEB Journal, 2004, 18, 771-772.	0.2	182
97	Carbon monoxide in biology and medicine. BioEssays, 2004, 26, 270-280.	1.2	343
98	PPARÎ³ Regulates the Anti-Inflammatory Effects of Carbon Monoxide on Macrophages: A Gene Profiling Study.. Blood, 2004, 104, 3445-3445.	0.6	15
99	Carbon monoxide suppresses arteriosclerotic lesions associated with chronic graft rejection and with balloon injury. Nature Medicine, 2003, 9, 183-190.	15.2	493
100	Inhaled carbon monoxide suppresses the development of postoperative ileus in the murine small intestine. Gastroenterology, 2003, 124, 377-391.	0.6	141
101	Protective effect of carbon monoxide inhalation for cold-preserved small intestinal grafts. Surgery, 2003, 134, 285-292.	1.0	81
102	MKK3 Mitogen-Activated Protein Kinase Pathway Mediates Carbon Monoxide-Induced Protection Against Oxidant-Induced Lung Injury. American Journal of Pathology, 2003, 163, 2555-2563.	1.9	179
103	Carbon Monoxide Induces Cytoprotection in Rat Orthotopic Lung Transplantation via Anti-Inflammatory and Anti-Apoptotic Effects. American Journal of Pathology, 2003, 163, 231-242.	1.9	207
104	Heme oxygenase-1: unleashing the protective properties of heme. Trends in Immunology, 2003, 24, 449-455.	2.9	1,054
105	Heavy chain ferritin acts as an antiâ€apoptotic gene that protects livers from ischemiaâ€reperfusion injury. FASEB Journal, 2003, 17, 1724-1726.	0.2	186
106	Carbon Monoxide Protects against Liver Failure through Nitric Oxideâ€“induced Heme Oxygenase 1. Journal of Experimental Medicine, 2003, 198, 1707-1716.	4.2	199
107	Low-dose carbon monoxide reduces airway hyperresponsiveness in mice. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2003, 285, L1270-L1276.	1.3	57
108	The Saga of Leucine Zippers Continues. American Journal of Respiratory Cell and Molecular Biology, 2002, 26, 161-163.	1.4	19

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109	Carbon Monoxide Modulates Endotoxin-Induced Production of Granulocyte Macrophage Colony-Stimulating Factor in Macrophages. American Journal of Respiratory Cell and Molecular Biology, 2002, 27, 739-745.	1.4	130
110	Carbon Monoxide: Innovative Anti-inflammatory Properties of an Age-Old Gas Molecule. Antioxidants and Redox Signaling, 2002, 4, 309-319.	2.5	139
111	Carbon monoxide attenuates aeroallergen-induced inflammation in mice. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2001, 281, L209-L216.	1.3	137
112	Carbon Monoxide Generated by Heme Oxygenase-1 Suppresses the Rejection of Mouse-to-Rat Cardiac Transplants. Journal of Immunology, 2001, 166, 4185-4194.	0.4	440
113	Carbon monoxide has anti-inflammatory effects involving the mitogen-activated protein kinase pathway. Nature Medicine, 2000, 6, 422-428.	15.2	2,506
114	Exogenous administration of heme oxygenase-1 by gene transfer provides protection against hyperoxia-induced lung injury. Journal of Clinical Investigation, 1999, 103, 1047-1054.	3.9	463