# Leo E Otterbein

List of Publications by Year
in descending order



| 114 | 14,743 | 28274 | 22832 |
|---|---|---|---|
| papers | citations | 55 h-index | 112 g-index |

| 132 | 132 | 132 | 12686 |
|---|---|---|---|
| all docs | docs citations | times ranked | citing authors |

| # | Article | IF | Citations |
|---|---|---|---|
| 1 | Extracellular mitochondria drive CD8 T cell dysfunction in trauma by upregulating CD39. Thorax, 2023, 78, 151-159. | 5.6 | 6 |
| 2 | NO, CO and H2S: A trinacrium of bioactive gases in the brain. Biochemical Pharmacology, 2022, 202, 115122. | 4.4 | 17 |
| 3 | Delivery of therapeutic carbon monoxide by gas-entrapping materials. Science Translational Medicine, 2022, 14, . | 12.4 | 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. | 2.1 | 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. | 7.4 | 23 |
| 6 | Skeletal muscle heme oxygenase-1 activity regulates aerobic capacity. Cell Reports, 2021, 35, 109018. | 6.4 | 18 |
| 7 | Carbon Monoxide: from Poison to Clinical Trials. Trends in Pharmacological Sciences, 2021, 42, 329-339. | 8.7 | 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. | 2.4 | 0 |
| 9 | Trauma-induced heme release increases susceptibility to bacterial infection. JCI Insight, 2021, 6, . | 5.0 | 13 |
| 10 | Carbon monoxide and a change of heart. Redox Biology, 2021, 48, 102183. | 9.0 | 12 |
| 11 | Carbon monoxide: An emerging therapy for acute kidney injury. Medicinal Research Reviews, 2020, 40, 1147-1177. | 10.5 | 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. | 0.9 | 20 |
| 13 | Multiplexed Plasma Immune Mediator Signatures Can Differentiate Sepsis From NonInfective SIRS. Annals of Surgery, 2020, 272, 604-610. | 4.2 | 10 |
| 14 | Circulating Factors in Trauma Plasma Activate Specific Human Immune Cell Subsets. Injury, 2020, 51, 819-829. | 1.7 | 8 |
| 15 | Characterization of pulmonary immune responses to hyperoxia by high-dimensional mass cytometry analyses. Scientific Reports, 2020, 10, 4677. | 3.3 | 12 |
| 16 | HO-1 and CD39: It Takes Two to Protect the Realm. Frontiers in Immunology, 2019, 10, 1765. | 4.8 | 17 |
| 17 | Conquering Radicals with a Sense of Humor. Cell Chemical Biology, 2019, 26, 1335-1337. | 5.2 | 0 |
| 18 | Caveolin-1 selectively regulates microRNA sorting into microvesicles after noxious stimuli. Journal of Experimental Medicine, 2019, 216, 2202-2220. | 8.5 | 147 |

| # | Article | IF | Citations |
|---|---|---|---|
| 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. | 0.8 | 16 |
| 20 | Endotoxin Engages Mitochondrial Quality Controlviaan iNOS-Reactive Oxygen Species Signaling Pathway in Hepatocytes. Oxidative Medicine and Cellular Longevity, 2019, 2019, 1-9. | 4.0 | 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. | 7.1 | 61 |
| 22 | Clinical Implications of Hyperoxia. International Anesthesiology Clinics, 2018, 56, 68-79. | 0.8 | 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. | 0.4 | 64 |
| 24 | Oral carbon monoxide therapy in murine sickle cell disease: Beneficial effects on vaso-occlusion, inflammation and anemia. PLoS ONE, 2018, 13, e0205194. | 2.5 | 37 |
| 25 | Danger signals from mitochondrial DAMPS in trauma and post-injury sepsis. European Journal of Trauma and Emergency Surgery, 2018, 44, 317-324. | 1.7 | 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. | 2.1 | 27 |
| 27 | Enrichment-triggered prodrug activation demonstrated through mitochondria-targeted delivery of doxorubicin and carbon monoxide. Nature Chemistry, 2018, 10, 787-794. | 13.6 | 218 |
| 28 | HIF-1Î±-induced xenobiotic transporters promote Th17 responses in Crohn's disease. Journal of Autoimmunity, 2018, 94, 122-133. | 6.5 | 36 |
| 29 | Where is the Clinical Breakthrough of Heme Oxygenase-1 / Carbon Monoxide Therapeutics?. Current Pharmaceutical Design, 2018, 24, 2264-2282. | 1.9 | 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. | 4.1 | 33 |
| 31 | Carbon Monoxide Preserves Circadian Rhythm to Reduce the Severity of Subarachnoid Hemorrhage in Mice. Stroke, 2017, 48, 2565-2573. | 2.0 | 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. | 0.8 | 79 |
| 33 | Intraoperative oxygen concentration and neurocognition after cardiac surgery: study protocol for a randomized controlled trial. Trials, 2017, 18, 600. | 1.6 | 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. | 2.1 | 11 |
| 35 | Bilirubin suppresses Th17 immunity in colitis by upregulating CD39. JCI Insight, 2017, 2, . | 5.0 | 67 |
| 36 | Heme oxygenase and carbon monoxide protect from muscle dystrophy. Skeletal Muscle, 2016, 6, 41. | 4.2 | 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. | 3.3 | 147 |
| 38 | Heme Oxygenase-1 and Carbon Monoxide in the Heart. Circulation Research, 2016, 118, 1940-1959. | 4.5 | 160 |
| 39 | Update on Renal Replacement Therapy: Implantable Artificial Devices and Bioengineered Organs. Tissue Engineering - Part B: Reviews, 2016, 22, 330-340. | 4.8 | 16 |
| 40 | Alterations of tumor microenvironment by carbon monoxide impedes lung cancer growth. Oncotarget, 2016, 7, 23919-23932. | 1.8 | 40 |
| 41 | Metabolic control of type 1 regulatory T cell differentiation by AHR and HIF1-Î±. Nature Medicine, 2015, 21, 638-646. | 30.7 | 374 |
| 42 | Friend or foe? Carbon monoxide and the mitochondria. Frontiers in Physiology, 2015, 6, 17. | 2.8 | 25 |
| 43 | Innate immunity for better or worse govern the allograft response. Current Opinion in Organ Transplantation, 2015, 20, 8-12. | 1.6 | 17 |
| 44 | Heme as a danger molecule in pathogen recognition. Free Radical Biology and Medicine, 2015, 89, 651-661. | 2.9 | 63 |
| 45 | Microglia regulate blood clearance in subarachnoid hemorrhage by heme oxygenase-1. Journal of Clinical Investigation, 2015, 125, 2609-2625. | 8.2 | 160 |
| 46 | Heme oxygenase-1 in macrophages controls prostate cancer progression. Oncotarget, 2015, 6, 33675-33688. | 1.8 | 44 |
| 47 | Autoreactivity to Glucose Regulated Protein 78 Links Emphysema and Osteoporosis in Smokers. PLoS ONE, 2014, 9, e105066. | 2.5 | 15 |
| 48 | Carbon monoxide induces chromatin remodelling to facilitate endothelial cell migration. Thrombosis and Haemostasis, 2014, 111, 951-959. | 3.4 | 19 |
| 49 | Macrophages sense and kill bacteria through carbon monoxideâ€“dependent inflammasome activation. Journal of Clinical Investigation, 2014, 124, 4926-4940. | 8.2 | 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. | 9.8 | 40 |
| 51 | Heme oxygenase-1 derived carbon monoxide permits maturation of myeloid cells. Cell Death and Disease, 2014, 5, e1139-e1139. | 6.3 | 44 |
| 52 | Heme Oxygenase-1: A Metabolic Nike. Antioxidants and Redox Signaling, 2014, 20, 1709-1722. | 5.4 | 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. | 2.1 | 37 |
| 54 | Eat to Heal: Natural Inducers of the Heme Oxygenase-1 System. AAPS Advances in the Pharmaceutical Sciences Series, 2014, , 243-256. | 0.6 | 3 |

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|---|---|---|---|
| 55 | Quoth the Raven: carbon monoxide and nothing more. Medical Gas Research, 2013, 3, 7. | 2.3 | 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. | 3.8 | 99 |
| 57 | The social network of carbon monoxide in medicine. Trends in Molecular Medicine, 2013, 19, 3-11. | 6.7 | 92 |
| 58 | Carbon Monoxide and Heme Oxygenase-1 Prevent Intestinal Inflammation in Mice by Promoting Bacterial Clearance. Gastroenterology, 2013, 144, 789-798. | 1.3 | 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. | 5.6 | 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. | 2.9 | 33 |
| 61 | Mitochondrial DAMPs Increase Endothelial Permeability through Neutrophil Dependent and Independent Pathways. PLoS ONE, 2013, 8, e59989. | 2.5 | 172 |
| 62 | Carbon Monoxide Abrogates Ischemic Insult to Neuronal Cells via the Soluble Guanylate Cyclase-cGMP Pathway. PLoS ONE, 2013, 8, e60672. | 2.5 | 43 |
| 63 | Biliverdin Protects against Liver Ischemia Reperfusion Injury in Swine. PLoS ONE, 2013, 8, e69972. | 2.5 | 32 |
| 64 | Carbon Monoxide and the Brain: Time to Rethink the Dogma. Current Pharmaceutical Design, 2013, 19, 2771-2775. | 1.9 | 50 |
| 65 | Carbon monoxide induces chromatin remodeling to facilitate endothelial cell migration. FASEB Journal, 2013, 27, lb105. | 0.5 | 0 |
| 66 | Activation of Peroxisome Proliferator-Activated Receptor Î³ Prolongs Islet Allograft Survival. Cell Transplantation, 2012, 21, 2111-2118. | 2.5 | 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. | 2.3 | 78 |
| 68 | Inhaled Carbon Monoxide Provides Cerebral Cytoprotection in Pigs. PLoS ONE, 2012, 7, e41982. | 2.5 | 20 |
| 69 | Go Green: The Anti-Inflammatory Effects of Biliverdin Reductase. Frontiers in Pharmacology, 2012, 3, 47. | 3.5 | 109 |
| 70 | Carbon Monoxide Induced PPARÎ³ SUMOylation and UCP2 Block Inflammatory Gene Expression in Macrophages. PLoS ONE, 2011, 6, e26376. | 2.5 | 25 |
| 71 | Carbon monoxide enhances early liver regeneration in mice after hepatectomy. Hepatology, 2011, 53, 2016-2026. | 7.3 | 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. | 7.1 | 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. | 7.1 | 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. | 4.7 | 51 |
| 75 | The therapeutic potential of carbon monoxide. Nature Reviews Drug Discovery, 2010, 9, 728-743. | 46.4 | 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. | 3.4 | 93 |
| 78 | The Evolution of Carbon Monoxide Into Medicine. Respiratory Care, 2009, 54, 925-932. | 1.6 | 42 |
| 79 | Heme oxygenase and carbon monoxide initiate homeostatic signaling. Journal of Molecular Medicine, 2008, 86, 267-279. | 3.9 | 207 |
| 80 | Cross-Regulation of Carbon Monoxide and the Adenosine A2a Receptor in Macrophages. Journal of Immunology, 2007, 178, 5921-5929. | 0.8 | 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. | 7.1 | 192 |
| 82 | Carbon monoxide signals via inhibition of cytochrome c oxidase and generation of mitochondrial reactive oxygen species. FASEB Journal, 2007, 21, 1099-1106. | 0.5 | 278 |
| 83 | Inhaled carbon monoxide inhibits intimal hyperplasia and provides added benefit with nitric oxide. Journal of Vascular Surgery, 2006, 44, 151-158. | 1.1 | 32 |
| 84 | Carbon Monoxide Orchestrates a Protective Response through PPARÎ³. Immunity, 2006, 24, 601-610. | 14.3 | 146 |
| 85 | Carbon monoxide reverses established pulmonary hypertension. Journal of Experimental Medicine, 2006, 203, 2109-2119. | 8.5 | 154 |
| 86 | Endothelial STAT3 is essential for the protective effects of HOâ€1 in oxidantâ€induced lung injury. FASEB Journal, 2006, 20, 2156-2158. | 0.5 | 98 |
| 87 | Brief inhalation of low-dose carbon monoxide protects rodents and swine from postoperative ileus*. Critical Care Medicine, 2005, 33, 1317-1326. | 0.9 | 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. | 4.7 | 227 |
| 89 | Carbon monoxide protects against the development of experimental necrotizing enterocolitis. American Journal of Physiology - Renal Physiology, 2005, 289, G607-G613. | 3.4 | 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. | 2.9 | 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. | 0.5 | 102 |
| 92 | Carbon monoxide prevents multiple organ injury in a model of hemorrhagic shock and resuscitation. Shock, 2005, 23, 527-32. | 2.1 | 64 |
| 93 | Carbon monoxide increases macrophage bacterial clearance through Toll-like receptor (TLR)4 expression. Cellular and Molecular Biology, 2005, 51, 433-40. | 0.9 | 39 |
| 94 | Protection of transplant-induced renal ischemia-reperfusion injury with carbon monoxide. American Journal of Physiology - Renal Physiology, 2004, 287, F979-F989. | 2.7 | 169 |
| 95 | Carbon Monoxide Promotes Fas/CD95-induced Apoptosis in Jurkat Cells. Journal of Biological Chemistry, 2004, 279, 44327-44334. | 3.4 | 66 |
| 96 | Heme oxygenaseâ€1â€derived carbon monoxide protects hearts from transplantâ€associated ischemia reperfusion injury. FASEB Journal, 2004, 18, 771-772. | 0.5 | 182 |
| 97 | Carbon monoxide in biology and medicine. BioEssays, 2004, 26, 270-280. | 2.5 | 343 |
| 98 | PPARÎ³ Regulates the Anti-Inflammatory Effects of Carbon Monoxide on Macrophages: A Gene Profiling Study.. Blood, 2004, 104, 3445-3445. | 1.4 | 15 |
| 99 | Carbon monoxide suppresses arteriosclerotic lesions associated with chronic graft rejection and with balloon injury. Nature Medicine, 2003, 9, 183-190. | 30.7 | 493 |
| 100 | Inhaled carbon monoxide suppresses the development of postoperative ileus in the murine small intestine. Gastroenterology, 2003, 124, 377-391. | 1.3 | 141 |
| 101 | Protective effect of carbon monoxide inhalation for cold-preserved small intestinal grafts. Surgery, 2003, 134, 285-292. | 1.9 | 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. | 3.8 | 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. | 3.8 | 207 |
| 104 | Heme oxygenase-1: unleashing the protective properties of heme. Trends in Immunology, 2003, 24, 449-455. | 6.8 | 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. | 0.5 | 186 |
| 106 | Carbon Monoxide Protects against Liver Failure through Nitric Oxideâ€“induced Heme Oxygenase 1. Journal of Experimental Medicine, 2003, 198, 1707-1716. | 8.5 | 199 |
| 107 | Low-dose carbon monoxide reduces airway hyperresponsiveness in mice. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2003, 285, L1270-L1276. | 2.9 | 57 |
| 108 | The Saga of Leucine Zippers Continues. American Journal of Respiratory Cell and Molecular Biology, 2002, 26, 161-163. | 2.9 | 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. | 2.9 | 130 |
| 110 | Carbon Monoxide: Innovative Anti-inflammatory Properties of an Age-Old Gas Molecule. Antioxidants and Redox Signaling, 2002, 4, 309-319. | 5.4 | 139 |
| 111 | Carbon monoxide attenuates aeroallergen-induced inflammation in mice. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2001, 281, L209-L216. | 2.9 | 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. | 0.8 | 440 |
| 113 | Carbon monoxide has anti-inflammatory effects involving the mitogen-activated protein kinase pathway. Nature Medicine, 2000, 6, 422-428. | 30.7 | 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. | 8.2 | 463 |