Karl A Nath

List of Publications by Year
in descending order

134 papers	9,234 citations	41344 49 h-index	39675 94 g-index
135 all docs	135 docs citations	135 times ranked	9940 citing authors

#	Article	IF	Citations
1	Tubulointerstitial Changes as a Major Determinant in the Progression of Renal Damage. American Journal of Kidney Diseases, 1992, 20, 1-17.	1.9	924
2	Heme triggers TLR4 signaling leading to endothelial cell activation and vaso-occlusion in murine sickle cell disease. Blood, 2014, 123, 377-390.	1.4	555
3	Reactive oxygen species and acute renal failure. American Journal of Medicine, 2000, 109, 665-678.	1.5	360
4	Physiology and Pathophysiology of Heme. Journal of the American Society of Nephrology: JASN, 2007, 18, 414-420.	6.1	288
5	Sickle cell disease: renal manifestations and mechanisms. Nature Reviews Nephrology, 2015, 11, 161-171.	9.6	258
6	The Indispensability of Heme Oxygenase-1 in Protecting against Acute Heme Protein-Induced Toxicity in Vivo. American Journal of Pathology, 2000, 156, 1527-1535.	3.8	248
7	Increased Oxidative Stress in Experimental Renovascular Hypertension. Hypertension, 2001, 37, 541-546.	2.7	247
8	Induction of heme oxygenase in toxic renal injury: A protective role in cisplatin nephrotoxicity in the rat. Kidney International, 1995, 48, 1298-1307.	5.2	242
9	Heme oxygenase: Protective gene or Trojan horse. Nature Medicine, 1998, 4, 1364-1365.	30.7	221
10	Mayo Clinic/Renal Pathology Society Consensus Report on Pathologic Classification, Diagnosis, and Reporting of GN. Journal of the American Society of Nephrology: JASN, 2016, 27, 1278-1287.	6.1	210
11	Renal Outcomes in Anticoagulated Patients With Atrial Fibrillation. Journal of the American College of Cardiology, 2017, 70, 2621-2632.	2.8	198
12	Heme protein-induced chronic renal inflammation: Suppressive effect of induced heme oxygenase-1. Kidney International, 2001, 59, 106-117.	5.2	194
13	Differentiating Primary, Genetic, and Secondary FSGS in Adults: A Clinicopathologic Approach. Journal of the American Society of Nephrology: JASN, 2018, 29, 759-774.	6.1	186
14	Outcomes of Arteriovenous Fistula Creation after the Fistula First Initiative. Clinical Journal of the American Society of Nephrology: CJASN, 2011, 6, 1996-2002.	4.5	179
15	Oxidative Stress and Induction of Heme Oxygenase-1 in the Kidney in Sickle Cell Disease. American Journal of Pathology, 2001, 158, 893-903.	3.8	177
16	Angiotensin II induces renal oxidant stress in vivo and heme oxygenase-1 in vivo and in vitro1. Kidney International, 2000, 58, 144-152.	5.2	149
17	Heme activates the heme oxygenase-1 gene in renal epithelial cells by stabilizing Nrf2. American Journal of Physiology - Renal Physiology, 2003, 284, F743-F752.	2.7	146
18	Vascular protection by tetrahydrobiopterin: progress and therapeutic prospects. Trends in Pharmacological Sciences, 2009, 30, 48-54.	8.7	128

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19	Hemolysis and Acute Kidney Failure. American Journal of Kidney Diseases, 2010, 56, 780-784.	1.9	124
20	Antigen presentation by dendritic cells in renal lymph nodes is linked to systemic and local injury to the kidney. Kidney International, 2005, 68, 1096-1108.	5.2	123
21	The Involvement of Oxidative Stress in the Progression of Renal Injury. Blood Purification, 1999, 17, 58-65.	1.8	116
22	Cellular overexpression of heme oxygenase-1 up-regulates p21 and confers resistance to apoptosis. Kidney International, 2001, 60, 2181-2191.	5.2	115
23	Renal response to repetitive exposure to heme proteins: Chronic injury induced by an acute insult. Kidney International, 2000, 57, 2423-2433.	5.2	114
24	Renal oxidant injury and oxidant response induced by mercury. Kidney International, 1996, 50, 1032-1043.	5.2	112
25	Intracellular targets in heme protein-induced renal injury. Kidney International, 1998, 53, 100-111.	5.2	110
26	Transgenic Sickle Mice Are Markedly Sensitive to Renal Ischemia-Reperfusion Injury. American Journal of Pathology, 2005, 166, 963-972.	3.8	108
27	Heme oxygenase-1 and acute kidney injury. Current Opinion in Nephrology and Hypertension, 2014, 23, 17-24.	2.0	108
28	Heme: a determinant of life and death in renal tubular epithelial cells. American Journal of Physiology - Renal Physiology, 2004, 286, F370-F377.	2.7	105
29	Redox regulation of renal DNA synthesis, transforming growth factor-Î²1 and collagen gene expression. Kidney International, 1998, 53, 367-381.	5.2	103
30	MCP-1 is up-regulated in unstressed and stressed HO-1 knockout mice: Pathophysiologic correlates1. Kidney International, 2005, 68, 611-622.	5.2	98
31	Control of Oxidative Stress and Inflammation in Sickle Cell Disease with the Nrf2 Activator Dimethyl Fumarate. Antioxidants and Redox Signaling, 2017, 26, 748-762.	5.4	95
32	Heme protein-mediated renal injury: A protective role for 21-aminosteroids in vitro and in vivo. Kidney International, 1995, 47, 592-602.	5.2	93
33	Long-term cardiovascular changes following creation of arteriovenous fistula in patients with end stage renal disease. European Heart Journal, 2017, 38, 1913-1923.	2.2	93
34	Essential Role of Endothelial Nitric Oxide Synthase in Vascular Effects of Erythropoietin. Hypertension, 2007, 49, 1142-1148.	2.7	91
35	Haptoglobin and hemopexin inhibit vaso-occlusion and inflammation in murine sickle cell disease: Role of heme oxygenase-1 induction. PLoS ONE, 2018, 13, e0196455.	2.5	88
36	Modulation of Mitochondrial Complex I Activity Averts Cognitive Decline in Multiple Animal Models of Familial Alzheimer's Disease. EBioMedicine, 2015, 2, 294-305.	6.1	87

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37	A major role for carbon monoxide as an endogenous hyperpolarizing factor in the gastrointestinal tract. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 8567-8570.	7.1	86
38	The Perfusion Paradox and Vascular Instability in Sickle Cell Disease. Microcirculation, 2004, 11, 179-193.	1.8	86
39	Kidney Disease Caused by Dysregulation of the Complement Alternative Pathway. Journal of the American Society of Nephrology: JASN, 2015, 26, 2917-2929.	6.1	84
40	The hyperbilirubinemic Gunn rat is resistant to the pressor effects of angiotensin II. American Journal of Physiology - Renal Physiology, 2005, 288, F552-F558.	2.7	83
41	MCP-1 Contributes to Arteriovenous Fistula Failure. Journal of the American Society of Nephrology: JASN, 2011, 22, 43-48.	6.1	83
42	Increased blood flow causes coordinated upregulation of arterial eNOS and biosynthesis of tetrahydrobiopterin. American Journal of Physiology - Heart and Circulatory Physiology, 2006, 290, H786-H793.	3.2	79
43	A Systems Biology Consideration of the Vasculopathy of Sickle Cell Anemia: The Need for Multi-Modality Chemo-Prophylaxis. Cardiovascular & Hematological Disorders Drug Targets, 2009, 9, 271-292.	0.7	78
44	Heme: a novel inducer of MCP-1 through HO-dependent and HO-independent mechanisms. American Journal of Physiology - Renal Physiology, 2003, 284, F546-F554.	2.7	75
45	Vasculature and Kidney Complications in Sickle Cell Disease. Journal of the American Society of Nephrology: JASN, 2012, 23, 781-784.	6.1	71
46	Increased Venous Proinflammatory Gene Expression and Intimal Hyperplasia in an Aorto-Caval Fistula Model in the Rat. American Journal of Pathology, 2003, 162, 2079-2090.	3.8	68
47	Renal Hemodynamic, Inflammatory, and Apoptotic Responses to Lipopolysaccharide in HO-1â"/â" Mice. American Journal of Pathology, 2007, 170, 1820-1830.	3.8	67
48	Temporal analysis of signaling pathways activated in a murine model of two-kidney, one-clip hypertension. American Journal of Physiology - Renal Physiology, 2009, 297, F1055-F1068.	2.7	58
49	Characterization of a Model of an Arteriovenous Fistula in the Rat. American Journal of Pathology, 2010, 176, 2530-2541.	3.8	52
50	Acute cholestatic liver disease protects against glycerol-induced acute renal failure in the rat. Kidney International, 2001, 60, 1047-1057.	5.2	51
51	Effect of pyruvate on oxidant injury to isolated and cellular DNA. Kidney International, 1994, 45, 166-176.	5.2	50
52	Vasculotoxic and Proinflammatory Effects of Plasma Heme: Cell Signaling and Cytoprotective Responses. ISRN Oxidative Medicine, 2013, 2013, 1-9.	0.8	46
53	Severe Acute Respiratory Syndrome Coronavirus 2, COVID-19, and the Renin-Angiotensin System. Hypertension, 2020, 76, 1350-1367.	2.7	46
54	Neoangiogenesis and the presence of progenitor cells in the venous limb of an arteriovenous fistula in the rat. American Journal of Physiology - Renal Physiology, 2007, 293, F470-F475.	2.7	44

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55	An analysis of the DOCA-salt model of hypertension in HO-1â^'/â^' mice and the Gunn rat. American Journal of Physiology - Heart and Circulatory Physiology, 2007, 293, H333-H342.	3.2	44
56	Heme oxygenase-1: a redoubtable response that limits reperfusion injury in the transplanted adipose liver. Journal of Clinical Investigation, 1999, 104, 1485-1486.	8.2	44
57	Heme oxygenaseâ€1 regulates the immune response to influenza virus infection and vaccination in aged mice. FASEB Journal, 2012, 26, 2911-2918.	0.5	43
58	Genetic deficiency of Smad3 protects against murine ischemic acute kidney injury. American Journal of Physiology - Renal Physiology, 2011, 301, F436-F442.	2.7	41
59	Functional adaptation and remodeling of pulmonary artery in flow-induced pulmonary hypertension. American Journal of Physiology - Heart and Circulatory Physiology, 2005, 289, H2334-H2341.	3.2	40
60	Renal upregulation of HO-1 reduces albumin-driven MCP-1 production: implications for chronic kidney disease. American Journal of Physiology - Renal Physiology, 2007, 292, F837-F844.	2.7	40
61	Ccl2 deficiency protects against chronic renal injury in murine renovascular hypertension. Scientific Reports, 2018, 8, 8598.	3.3	40
62	Age sensitizes the kidney to heme protein-induced acute kidney injury. American Journal of Physiology - Renal Physiology, 2013, 304, F317-F325.	2.7	38
63	Mechanisms underlying induction of heme oxygenase-1 by nitric oxide in renal tubular epithelial cells. American Journal of Physiology - Renal Physiology, 2000, 279, F728-F735.	2.7	37
64	TGF-Î²1 is an Autocrine Mediator of Renal Tubular Epithelial Cell Growth and Collagen IV Production. Experimental Biology and Medicine, 2002, 227, 171-181.	2.4	36
65	Induction of Heme Oxygenase-1 is a Beneficial Response in a Murine Model of Venous Thrombosis. American Journal of Pathology, 2008, 173, 1882-1890.	3.8	35
66	A promising approach for treatment of tumor-induced bone diseases: Utilizing bisphosphonate derivatives of nucleoside antimetabolites. Bone, 2010, 47, 12-22.	2.9	34
67	Blockade of CCR2 reduces macrophage influx and development of chronic renal damage in murine renovascular hypertension. American Journal of Physiology - Renal Physiology, 2016, 310, F372-F384.	2.7	34
68	Induction of Heme Oxygenase-1 and Ferritin in the Kidney in Warm Antibody Hemolytic Anemia. American Journal of Kidney Diseases, 2008, 52, 972-977.	1.9	33
69	H-ferritin ferroxidase induces cytoprotective pathways and inhibits microvascular stasis in transgenic sickle mice. Frontiers in Pharmacology, 2014, 5, 79.	3.5	32
70	A new model of an arteriovenous fistula in chronic kidney disease in the mouse: beneficial effects of upregulated heme oxygenase-1. American Journal of Physiology - Renal Physiology, 2016, 310, F466-F476.	2.7	31
71	Role of TLR4 signaling in the nephrotoxicity of heme and heme proteins. American Journal of Physiology - Renal Physiology, 2018, 314, F906-F914.	2.7	31
72	Low-Dose Angiotensin II Enhances Pressor Responses Without Causing Sustained Hypertension. Hypertension, 2003, 42, 798-801.	2.7	28

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73	Anomalous Renal Effects of Tin Protoporphyrin in a Murine Model of Sickle Cell Disease. American Journal of Pathology, 2006, 169, 21-31.	3.8	27
74	Increased production of superoxide anion contributes to dysfunction of the arteriovenous fistula. American Journal of Physiology - Renal Physiology, 2012, 303, F1601-F1607.	2.7	26
75	The murine dialysis fistula model exhibits a senescence phenotype: pathobiological mechanisms and therapeutic potential. American Journal of Physiology - Renal Physiology, 2018, 315, F1493-F1499.	2.7	26
76	Identification of a Heme Activation Site on the MD-2/TLR4 Complex. Frontiers in Immunology, 2020, 11, 1370.	4.8	26
77	Proteinuria as a determinant of renal expression of heme oxygenase-1: studies in models of glomerular and tubular proteinuria in the rat. American Journal of Physiology - Renal Physiology, 2006, 290, F196-F204.	2.7	24
78	Early and prominent alterations in hemodynamics, signaling, and gene expression following renal ischemia in sickle cell disease. American Journal of Physiology - Renal Physiology, 2010, 298, F892-F899.	2.7	23
79	A monocyteâ€TNFâ€endothelial activation axis in sickle transgenic mice: Therapeutic benefit from TNF blockade. American Journal of Hematology, 2017, 92, 1119-1130.	4.1	23
80	Signaling pathways modulated by fish oil in salt-sensitive hypertension. American Journal of Physiology - Renal Physiology, 2008, 294, F1323-F1335.	2.7	21
81	Regional and systemic hemodynamic responses following the creation of a murine arteriovenous fistula. American Journal of Physiology - Renal Physiology, 2011, 301, F845-F851.	2.7	21
82	The role of Sirt1 in renal rejuvenation and resistance to stress. Journal of Clinical Investigation, 2010, 120, 1026-1028.	8.2	21
83	Comparative Effectiveness and Safety of Oral Anticoagulants Across Kidney Function in Patients With Atrial Fibrillation. Circulation: Cardiovascular Quality and Outcomes, 2020, 13, e006515.	2.2	20
84	Epigenetic and senescence markers indicate an accelerated ageing-like state in women with preeclamptic pregnancies. EBioMedicine, 2021, 70, 103536.	6.1	20
85	Functioning of an arteriovenous fistula requires heme oxygenase-2. American Journal of Physiology - Renal Physiology, 2013, 305, F545-F552.	2.7	19
86	Induction and functional significance of the heme oxygenase system in pathological shear stress in vivo. American Journal of Physiology - Heart and Circulatory Physiology, 2015, 308, H1402-H1413.	3.2	19
87	Protective Effect of Heme Oxygenase-1 Gene Transfer against Oxyhemoglobin-Induced Endothelial Dysfunction. Journal of Cerebral Blood Flow and Metabolism, 2001, 21, 1215-1222.	4.3	16
88	Î²-Catenin is markedly induced in a murine model of an arteriovenous fistula: the effect of metalloproteinase inhibition. American Journal of Physiology - Renal Physiology, 2010, 299, F1270-F1277.	2.7	15
89	The spike protein of SARS-CoV-2 induces heme oxygenase-1: Pathophysiologic implications. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2022, 1868, 166322.	3.8	15
90	Heart failure increases protein expression and enzymatic activity of heme oxygenase-1 in the lung. Cardiovascular Research, 2005, 65, 203-210.	3.8	14

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91	Antithrombotic effects of heme-degrading and heme-binding proteins. American Journal of Physiology - Heart and Circulatory Physiology, 2020, 318, H671-H681.	3.2	14
92	A Vectorâ€"Host System to Fingerprint Virus Tropism. Human Gene Therapy, 2012, 23, 1116-1126.	2.7	12
93	Cyclophilins A and B oppositely regulate renal tubular epithelial cell phenotype. Journal of Molecular Cell Biology, 2020, 12, 499-514.	3.3	12
94	Expression of ACE2 in the Intact and Acutely Injured Kidney. Kidney360, 2021, 2, 1095-1106.	2.1	12
95	Mechanisms of vascular dysfunction in the interleukin-10â€"deficient murine model of preeclampsia indicate nitric oxide dysregulation. Kidney International, 2021, 99, 646-656.	5.2	10
96	Vascular Access for Hemodialysis and Value-Based Purchasing for ESRD. Journal of the American Society of Nephrology: JASN, 2017, 28, 395-397.	6.1	9
97	Heme oxygenase-2 protects against ischemic acute kidney injury: influence of age and sex. American Journal of Physiology - Renal Physiology, 2019, 317, F695-F704.	2.7	9
98	Heme oxygenase activity as a determinant of the renal hemodynamic response to low-dose ANG II. American Journal of Physiology - Regulatory Integrative and Comparative Physiology, 2010, 299, R1183-R1191.	1.8	8
99	The Modulatory Role of Heme Oxygenase on Subpressor Angiotensin II-Induced Hypertension and Renal Injury. International Journal of Hypertension, 2012, 2012, 1-7.	1.3	8
100	Challenges in Developing New Therapies for Vascular Access Dysfunction. Clinical Journal of the American Society of Nephrology: CJASN, 2017, 12, 2053-2055.	4.5	8
101	Preservation of the kidney by carbon monoxide: a black swan phenomenon. Kidney International, 2008, 74, 989-991.	5.2	7
102	Dialysis Vascular Access Intervention and the Search for Biomarkers. Journal of the American Society of Nephrology: JASN, 2016, 27, 970-972.	6.1	7
103	Targeting lysineâ€specific demethylase 1A inhibits renal epithelialâ€"mesenchymal transition and attenuates renal fibrosis. FASEB Journal, 2022, 36, e22122.	0.5	7
104	Models of Human AKI. Journal of the American Society of Nephrology: JASN, 2015, 26, 2891-2893.	6.1	6
105	CKD Due to a Novel Mitochondrial DNA Mutation: A Case Report. American Journal of Kidney Diseases, 2019, 73, 273-277.	1.9	6
106	The 2020 Vision for Mayo Clinic Proceedings. Mayo Clinic Proceedings, 2020, 95, 1-2.	3.0	6
107	Cardiovascular phenotype in Smad3 deficient mice with renovascular hypertension. PLoS ONE, 2017, 12, e0187062.	2.5	6
108	Selective Enhancement of Contractions to Î±1-adrenergic Receptor Activation in the Aorta of Mice With Sickle Cell Disease. Journal of Cardiovascular Pharmacology, 2011, 57, 263-266.	1.9	5

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109	Predicting the Functionality and Form of a Dialysis Fistula. Journal of the American Society of Nephrology: JASN, 2016, 27, 3508-3510.	6.1	5
110	KLF11 deficiency enhances chemokine generation and fibrosis in murine unilateral ureteral obstruction. PLoS ONE, 2022, 17, e0266454.	2.5	5
111	Renal Functional Decline in Sickle Cell Disease and Trait. Journal of the American Society of Nephrology: JASN, 2020, 31, 236-238.	6.1	4
112	Introduction to Thematic Reviews on Aging and Geriatric Medicine. Mayo Clinic Proceedings, 2020, 95, 1102-1104.	3.0	4
113	Disease Progression and End-Stage Renal Disease in Diverse Glomerulopathies. Mayo Clinic Proceedings, 2018, 93, 133-135.	3.0	3
114	Introduction. Mayo Clinic Proceedings, 2020, 95, S1-S2.	3.0	3
115	KLF11 is a Novel Endogenous Protectant against Renal Ischemia-Reperfusion Injury. Kidney360, 0, , 10.34067/KID.0002272022.	2.1	3
116	Pathophysiology of Progression. , 2015, , 136-150.		2
117	Endothelin-A Receptor Antagonism Retards the Progression of Murine Sickle Cell Nephropathy. Journal of the American Society of Nephrology: JASN, 2017, 28, 2253-2255.	6.1	2
118	Progressing From Print to Paperless Online Publishing. Mayo Clinic Proceedings, 2021, 96, 16-17.	3.0	2
119	RedefiningJASN. Journal of the American Society of Nephrology: JASN, 2013, 24, 1025-1026.	6.1	1
120	Pathophysiology of Chronic Kidney Disease Progression: Organ and Cellular Considerations. , 2020, , 263-278.		1
121	Induction of Heme Oxygenase-1 as a Protective Response Against Heme Protein-Induced Renal Injury. , 2002, , 241-250.		1
122	JASNâ€™s Silver Jubilee. Journal of the American Society of Nephrology: JASN, 2015, 26, 1477-1478.	6.1	0
123	Celebrating the ASN at 50. Journal of the American Society of Nephrology: JASN, 2016, 27, 1575-1576.	6.1	0
124	Current, Emerging, and Anticipated Therapies for Sickle Cell Disease. Mayo Clinic Proceedings, 2018, 93, 1703-1706.	3.0	0
125	Global Village, International Travel, and Risk of Communicable Disease. Mayo Clinic Proceedings, 2019, 94, 383-384.	3.0	0
126	Letter by Reddy et al Regarding Article, â€œEffects of Arteriovenous Fistula Ligation on Cardiac Structure and Function in Kidney Transplant Recipientsâ€. Circulation, 2019, 140, e804-e805.	1.6	0

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127	Hemoglobinuria in the early post stem cell transplant period: Risk factors and association with outcomes. Kidney360, 2021, 2, 10.34067/KID.0002262021.	2.1	0
128	Stimulatory Effect of Erythropoietin on Endothelial Repair After Vascular Injury. FASEB Journal, 2006, 20, A230.	0.5	0
129	Amyloidogenic lambda Light Chain Renal Toxicity: Oxidative Stress Implicated.. Blood, 2007, 110, 3531-3531.	1.4	0
130	Heme, Iron, and the Kidney. Blood, 2010, 116, SCI-26-SCI-26.	1.4	0
131	Carbon Monoxide Therapy Reduces Reactive Oxygen Species Production and the Short-Term Hematopoietic Stem Cell Population In Heme-Oxygenase-1 Knockout Mice. Blood, 2010, 116, 4767-4767.	1.4	0
132	Carbon Monoxide Therapy Modulates Hematopoietic Stem Cell Development in Heme-Oxygenase-1 Knockout Mice. Blood, 2011, 118, 1318-1318.	1.4	0
133	Publishing Pandemic-Related Content and Embarking on New Initiatives. Mayo Clinic Proceedings, 2022, 97, 18-19.	3.0	0
134	Abstract 19760: Longitudinal Changes in Cardiac Structure and Function After Creation of Dialysis Access in People With End Stage Kidney Disease: A 15 Year Experience. Circulation, 2015, 132, .	1.6	0