

Renu A Kowluru

List of Publications by Year in descending order

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132
papers

11,011
citations

30068

54
h-index

45310

90
g-index

136
all docs

136
docs citations

136
times ranked

7803
citing authors

#	ARTICLE	IF	CITATIONS
1	Oxidative Stress and Diabetic Retinopathy. <i>Experimental Diabetes Research</i> , 2007, 2007, 1-12.	3.8	506
2	Oxidative Damage in the Retinal Mitochondria of Diabetic Mice: Possible Protection by Superoxide Dismutase. , 2007, 48, 3805.		286
3	Effects of curcumin on retinal oxidative stress and inflammation in diabetes. <i>Nutrition and Metabolism</i> , 2007, 4, 8.	3.0	278
4	Diabetes-Induced Mitochondrial Dysfunction in the Retina. , 2003, 44, 5327.		261
5	Oxidative stress and diabetic retinopathy: Pathophysiological mechanisms and treatment perspectives. <i>Reviews in Endocrine and Metabolic Disorders</i> , 2008, 9, 315-327.	5.7	253
6	Effect of Reinstitution of Good Glycemic Control on Retinal Oxidative Stress and Nitrate Stress in Diabetic Rats. <i>Diabetes</i> , 2003, 52, 818-823.	0.6	252
7	Oxidative stress, mitochondrial damage and diabetic retinopathy. <i>Biochimica Et Biophysica Acta - Molecular Basis of Disease</i> , 2015, 1852, 2474-2483.	3.8	248
8	Oxidative stress and epigenetic modifications in the pathogenesis of diabetic retinopathy. <i>Progress in Retinal and Eye Research</i> , 2015, 48, 40-61.	15.5	245
9	Diabetes-induced Activation of Nuclear Transcriptional Factor in the Retina, and its Inhibition by Antioxidants. <i>Free Radical Research</i> , 2003, 37, 1169-1180.	3.3	242
10	Effect of Long-Term Administration of α -Lipoic Acid on Retinal Capillary Cell Death and the Development of Retinopathy in Diabetic Rats. <i>Diabetes</i> , 2004, 53, 3233-3238.	0.6	223
11	Diabetic Retinopathy: Mitochondrial Dysfunction and Retinal Capillary Cell Death. <i>Antioxidants and Redox Signaling</i> , 2005, 7, 1581.	5.4	218
12	Role of interleukin-1 α in the pathogenesis of diabetic retinopathy. <i>British Journal of Ophthalmology</i> , 2004, 88, 1343-1347.	3.9	210
13	Overexpression of mitochondrial superoxide dismutase in mice protects the retina from diabetes-induced oxidative stress. <i>Free Radical Biology and Medicine</i> , 2006, 41, 1191-1196.	2.9	203
14	Retinal glutamate in diabetes and effect of antioxidants. <i>Neurochemistry International</i> , 2001, 38, 385-390.	3.8	187
15	Epigenetic Changes in Mitochondrial Superoxide Dismutase in the Retina and the Development of Diabetic Retinopathy. <i>Diabetes</i> , 2011, 60, 1304-1313.	0.6	185
16	Transcription Factor Nrf2-Mediated Antioxidant Defense System in the Development of Diabetic Retinopathy. , 2013, 54, 3941.		174
17	Role of Mitochondrial Superoxide Dismutase in the Development of Diabetic Retinopathy. , 2006, 47, 1594.		163
18	Abnormalities of Retinal Metabolism in Diabetes or Experimental Galactosemia. IV. Antioxidant Defense System. <i>Free Radical Biology and Medicine</i> , 1997, 22, 587-592.	2.9	160

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19	Role of Interleukin-1 β in the Development of Retinopathy in Rats: Effect of Antioxidants. , 2004, 45, 4161.		152
20	Role of Mitochondrial DNA Damage in the Development of Diabetic Retinopathy, and the Metabolic Memory Phenomenon Associated with Its Progression. Antioxidants and Redox Signaling, 2010, 13, 797-805.	5.4	152
21	Role of histone acetylation in the development of diabetic retinopathy and the metabolic memory phenomenon. Journal of Cellular Biochemistry, 2010, 110, 1306-1313.	2.6	144
22	Matrix metalloproteinases in diabetic retinopathy: potential role of MMP-9. Expert Opinion on Investigational Drugs, 2012, 21, 797-805.	4.1	140
23	Diabetes-induced Activation of Caspase-3 in Retina: Effect of Antioxidant Therapy. Free Radical Research, 2002, 36, 993-999.	3.3	134
24	Abrogation of <i>MMP-9</i> Gene Protects Against the Development of Retinopathy in Diabetic Mice by Preventing Mitochondrial Damage. Diabetes, 2011, 60, 3023-3033.	0.6	131
25	Oxidative damage of mitochondrial DNA in diabetes and its protection by manganese superoxide dismutase. Free Radical Research, 2010, 44, 313-321.	3.3	129
26	Beneficial Effect of Zeaxanthin on Retinal Metabolic Abnormalities in Diabetic Rats. , 2008, 49, 1645.		125
27	Mitochondrial biogenesis and the development of diabetic retinopathy. Free Radical Biology and Medicine, 2011, 51, 1849-1860.	2.9	122
28	Epigenetic Modification of Mitochondrial DNA in the Development of Diabetic Retinopathy. , 2015, 56, 5133.		122
29	Epigenetic Modification of <i>Sod2</i> in the Development of Diabetic Retinopathy and in the Metabolic Memory: Role of Histone Methylation. , 2013, 54, 244.		119
30	Regulation of Matrix Metalloproteinase-9 by Epigenetic Modifications and the Development of Diabetic Retinopathy. Diabetes, 2013, 62, 2559-2568.	0.6	116
31	TIAM1-RAC1 signalling axis-mediated activation of NADPH oxidase-2 initiates mitochondrial damage in the development of diabetic retinopathy. Diabetologia, 2014, 57, 1047-1056.	6.3	114
32	Sirt1, a Negative Regulator of Matrix Metalloproteinase-9 in Diabetic Retinopathy. , 2014, 55, 5653.		106
33	Increased Phagocyte-Like NADPH Oxidase and ROS Generation in Type 2 Diabetic ZDF Rat and Human Islets. Diabetes, 2011, 60, 2843-2852.	0.6	102
34	Mitochondria DNA Replication and DNA Methylation in the Metabolic Memory Associated with Continued Progression of Diabetic Retinopathy. , 2012, 53, 4881.		101
35	Sirt1: A Guardian of the Development of Diabetic Retinopathy. Diabetes, 2018, 67, 745-754.	0.6	95
36	Metabolic Memory Phenomenon and Accumulation of Peroxynitrite in Retinal Capillaries. Experimental Diabetes Research, 2007, 2007, 1-7.	3.8	93

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37	Role of Glyceraldehyde 3-Phosphate Dehydrogenase in the Development and Progression of Diabetic Retinopathy. <i>Diabetes</i> , 2009, 58, 227-234.	0.6	93
38	Oxidative stress and the development of diabetic retinopathy: Contributory role of matrix metalloproteinase-2. <i>Free Radical Biology and Medicine</i> , 2009, 46, 1677-1685.	2.9	91
39	Diabetic Retinopathy and Damage to Mitochondrial Structure and Transport Machinery. , 2011, 52, 8739.		89
40	Reversal of hyperglycemia and diabetic nephropathy. <i>Journal of Diabetes and Its Complications</i> , 2004, 18, 282-288.	2.3	87
41	Beneficial effects of the nutritional supplements on the development of diabetic retinopathy. <i>Nutrition and Metabolism</i> , 2014, 11, 8.	3.0	87
42	Diabetic Retinopathy, Superoxide Damage and Antioxidants. <i>Current Pharmaceutical Biotechnology</i> , 2011, 12, 352-361.	1.6	86
43	Damaged Mitochondrial DNA Replication System and the Development of Diabetic Retinopathy. <i>Antioxidants and Redox Signaling</i> , 2012, 17, 492-504.	5.4	86
44	Epigenetic Modifications of Keap1 Regulate Its Interaction With the Protective Factor Nrf2 in the Development of Diabetic Retinopathy. , 2014, 55, 7256.		86
45	Mitochondrial Defects Drive Degenerative Retinal Diseases. <i>Trends in Molecular Medicine</i> , 2020, 26, 105-118.	6.7	86
46	Matrix metalloproteinase-2 in the development of diabetic retinopathy and mitochondrial dysfunction. <i>Laboratory Investigation</i> , 2010, 90, 1365-1372.	3.7	85
47	Role of Matrix Metalloproteinase-9 in the Development of Diabetic Retinopathy and Its Regulation by H-Ras. , 2010, 51, 4320.		85
48	Dynamic DNA methylation of matrix metalloproteinase-9 in the development of diabetic retinopathy. <i>Laboratory Investigation</i> , 2016, 96, 1040-1049.	3.7	85
49	Re-institution of good metabolic control in diabetic rats and activation of caspase-3 and nuclear transcriptional factor (NF- κ B) in the retina. <i>Acta Diabetologica</i> , 2004, 41, 194-199.	2.5	84
50	Therapeutic potential of anti-oxidants and diabetic retinopathy. <i>Expert Opinion on Investigational Drugs</i> , 2001, 10, 1665-1676.	4.1	81
51	Epigenetic Modifications and Diabetic Retinopathy. <i>BioMed Research International</i> , 2013, 2013, 1-9.	1.9	81
52	Long Noncoding RNA <i>MALAT1</i> and Regulation of the Antioxidant Defense System in Diabetic Retinopathy. <i>Diabetes</i> , 2021, 70, 227-239.	0.6	81
53	Abnormalities of retinal metabolism in diabetes or experimental galactosemia VIII. Prevention by aminoguanidine. <i>Current Eye Research</i> , 2000, 21, 814-819.	1.5	79
54	A compensatory mechanism protects retinal mitochondria from initial insult in diabetic retinopathy. <i>Free Radical Biology and Medicine</i> , 2012, 53, 1729-1737.	2.9	77

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55	Novel Role of Mitochondrial Matrix Metalloproteinase-2 in the Development of Diabetic Retinopathy. , 2011, 52, 3832.		76
56	Epigenetic modifications of Nrf2-mediated glutamate-cysteine ligase: implications for the development of diabetic retinopathy and the metabolic memory phenomenon associated with its continued progression. Free Radical Biology and Medicine, 2014, 75, 129-139.	2.9	76
57	Role of Mitochondria Biogenesis in the Metabolic Memory Associated with the Continued Progression of Diabetic Retinopathy and Its Regulation by Lipoic Acid. , 2011, 52, 8791.		75
58	Abnormalities of retinal metabolism in diabetes or galactosemia II. Comparison of γ -glutamyl transpeptidase in retina and cerebral cortex, and effects of antioxidant therapy. Current Eye Research, 1994, 13, 891-896.	1.5	74
59	Resistance of retinal inflammatory mediators to suppress after reinstatement of good glycemic control: novel mechanism for metabolic memory. Journal of Diabetes and Its Complications, 2010, 24, 55-63.	2.3	73
60	Epigenetic regulation of redox signaling in diabetic retinopathy: Role of Nrf2. Free Radical Biology and Medicine, 2017, 103, 155-164.	2.9	72
61	Diabetic retinopathy and signaling mechanism for activation of matrix metalloproteinase-9. Journal of Cellular Physiology, 2012, 227, 1052-1061.	4.1	70
62	Epigenetics and Regulation of Oxidative Stress in Diabetic Retinopathy. , 2018, 59, 4831.		70
63	Inhibition of Retinopathy and Retinal Metabolic Abnormalities in Diabetic Rats With AREDS-Based Micronutrients. JAMA Ophthalmology, 2008, 126, 1266.	2.4	69
64	Metabolic memory and diabetic retinopathy: Role of inflammatory mediators in retinal pericytes. Experimental Eye Research, 2010, 90, 617-623.	2.6	67
65	Mitochondrial fusion and maintenance of mitochondrial homeostasis in diabetic retinopathy. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2019, 1865, 1617-1626.	3.8	67
66	Effect of advanced glycation end products on accelerated apoptosis of retinal capillary cells under in vitro conditions. Life Sciences, 2005, 76, 1051-1060.	4.3	66
67	Phagocyte-like NADPH oxidase [Nox2] in cellular dysfunction in models of glucolipotoxicity and diabetes. Biochemical Pharmacology, 2014, 88, 275-283.	4.4	66
68	Diabetic retinopathy, metabolic memory and epigenetic modifications. Vision Research, 2017, 139, 30-38.	1.4	66
69	Mitochondrial Stability in Diabetic Retinopathy: Lessons Learned From Epigenetics. Diabetes, 2019, 68, 241-247.	0.6	66
70	Lipotoxicity Augments Glucotoxicity-Induced Mitochondrial Damage in the Development of Diabetic Retinopathy. , 2015, 56, 2985.		64
71	Diabetes-induced metabolic abnormalities in myocardium: Effect of antioxidant therapy. Free Radical Research, 2000, 32, 67-74.	3.3	59
72	Retinal Mitochondrial DNA Mismatch Repair in the Development of Diabetic Retinopathy, and Its Continued Progression After Termination of Hyperglycemia. Investigative Ophthalmology and Visual Science, 2014, 55, 6960-6967.	3.3	58

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73	Mitochondria Damage in the Pathogenesis of Diabetic Retinopathy and in the Metabolic Memory Associated with its Continued Progression. <i>Current Medicinal Chemistry</i> , 2013, 20, 3226-3233.	2.4	57
74	Hyperlipidemia and the development of diabetic retinopathy: Comparison between type 1 and type 2 animal models. <i>Metabolism: Clinical and Experimental</i> , 2016, 65, 1570-1581.	3.4	56
75	Regulation of Matrix Metalloproteinase in the Pathogenesis of Diabetic Retinopathy. <i>Progress in Molecular Biology and Translational Science</i> , 2017, 148, 67-85.	1.7	56
76	Atypical antipsychotics, insulin resistance and weight; a meta-analysis of healthy volunteer studies. <i>Progress in Neuro-Psychopharmacology and Biological Psychiatry</i> , 2018, 83, 55-63.	4.8	52
77	Crosstalk Between Histone and DNA Methylation in Regulation of Retinal Matrix Metalloproteinase-9 in Diabetes. , 2017, 58, 6440.		50
78	Metabolic memory in diabetes – from in vitro oddity to in vivo problem: Role of Apoptosis. <i>Brain Research Bulletin</i> , 2010, 81, 297-302.	3.0	49
79	The Diabetes Visual Function Supplement Study (<i>DiVFuSS</i>). <i>British Journal of Ophthalmology</i> , 2016, 100, 227-234.	3.9	49
80	Retinopathy in a Diet-Induced Type 2 Diabetic Rat Model and Role of Epigenetic Modifications. <i>Diabetes</i> , 2020, 69, 689-698.	0.6	49
81	Potential Contributory Role of H-Ras, a Small G-Protein, in the Development of Retinopathy in Diabetic Rats. <i>Diabetes</i> , 2004, 53, 775-783.	0.6	48
82	Posttranslational modification of mitochondrial transcription factor A in impaired mitochondria biogenesis: Implications in diabetic retinopathy and metabolic memory phenomenon. <i>Experimental Eye Research</i> , 2014, 121, 168-177.	2.6	48
83	The Role of DNA Methylation in the Metabolic Memory Phenomenon Associated With the Continued Progression of Diabetic Retinopathy. , 2016, 57, 5748.		47
84	Beyond AREDS: Is There a Place for Antioxidant Therapy in the Prevention/Treatment of Eye Disease?. , 2011, 52, 8665.		45
85	Tiam1-Rac1 Axis Promotes Activation of p38 MAP Kinase in the Development of Diabetic Retinopathy: Evidence for a Requisite Role for Protein Palmitoylation. <i>Cellular Physiology and Biochemistry</i> , 2015, 36, 208-220.	1.6	45
86	Abnormalities of retinal metabolism in diabetes or experimental galactosemia. VI. Comparison of retinal and cerebral cortex metabolism, and effects of antioxidant therapy. <i>Free Radical Biology and Medicine</i> , 1999, 26, 371-378.	2.9	44
87	Molecular Mechanism of Transcriptional Regulation of Matrix Metalloproteinase-9 in Diabetic Retinopathy. <i>Journal of Cellular Physiology</i> , 2016, 231, 1709-1718.	4.1	43
88	DNA Methylation – a Potential Source of Mitochondria DNA Base Mismatch in the Development of Diabetic Retinopathy. <i>Molecular Neurobiology</i> , 2019, 56, 88-101.	4.0	43
89	Interrelationship between activation of matrix metalloproteinases and mitochondrial dysfunction in the development of diabetic retinopathy. <i>Biochemical and Biophysical Research Communications</i> , 2013, 438, 760-764.	2.1	41
90	Contribution of epigenetics in diabetic retinopathy. <i>Science China Life Sciences</i> , 2015, 58, 556-563.	4.9	41

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91	Role of PARP-1 as a novel transcriptional regulator of MMP-9 in diabetic retinopathy. <i>Biochimica Et Biophysica Acta - Molecular Basis of Disease</i> , 2017, 1863, 1761-1769.	3.8	39
92	Glyceraldehyde-3-Phosphate Dehydrogenase in Retinal Microvasculature: Implications for the Development and Progression of Diabetic Retinopathy. , 2010, 51, 1765.		37
93	Therapeutic targets for altering mitochondrial dysfunction associated with diabetic retinopathy. <i>Expert Opinion on Therapeutic Targets</i> , 2018, 22, 233-245.	3.4	37
94	Adaptor Protein p66Shc: A Link Between Cytosolic and Mitochondrial Dysfunction in the Development of Diabetic Retinopathy. <i>Antioxidants and Redox Signaling</i> , 2019, 30, 1621-1634.	5.4	37
95	Impaired transport of mitochondrial transcription factor A (TFAM) and the metabolic memory phenomenon associated with the progression of diabetic retinopathy. <i>Diabetes/Metabolism Research and Reviews</i> , 2013, 29, 204-213.	4.0	36
96	Epigenetics and Mitochondrial Stability in the Metabolic Memory Phenomenon Associated with Continued Progression of Diabetic Retinopathy. <i>Scientific Reports</i> , 2020, 10, 6655.	3.3	36
97	Hexosamine induction of oxidative stress, hypertrophy and laminin expression in renal mesangial cells: effect of the anti-oxidant α -lipoic acid. <i>Cell Biochemistry and Function</i> , 2007, 25, 537-550.	2.9	35
98	Role of oxidative stress in epigenetic modification of MMP-9 promoter in the development of diabetic retinopathy. <i>Graefe's Archive for Clinical and Experimental Ophthalmology</i> , 2017, 255, 955-962.	1.9	35
99	TXNIP mediates high glucose-induced mitophagic flux and lysosome enlargement in human retinal pigment epithelial cells. <i>Biology Open</i> , 2019, 8, .	1.2	33
100	Retinal metabolic abnormalities in diabetic mouse: Comparison with diabetic rat. <i>Current Eye Research</i> , 2002, 24, 123-128.	1.5	31
101	Peripheral Blood Mitochondrial DNA Damage as a Potential Noninvasive Biomarker of Diabetic Retinopathy. , 2016, 57, 4035.		31
102	Diabetic retinopathy and transcriptional regulation of a small molecular weight G-Protein, Rac1. <i>Experimental Eye Research</i> , 2016, 147, 72-77.	2.6	30
103	Increased oxidative stress in diabetes regulates activation of a small molecular weight G-protein, H-Ras, in the retina. <i>Molecular Vision</i> , 2007, 13, 602-10.	1.1	29
104	Functional Regulation of an Oxidative Stress Mediator, Rac1, in Diabetic Retinopathy. <i>Molecular Neurobiology</i> , 2019, 56, 8643-8655.	4.0	28
105	Epigenetic Modifications Compromise Mitochondrial DNA Quality Control in the Development of Diabetic Retinopathy. , 2019, 60, 3943.		27
106	Faulty homocysteine recycling in diabetic retinopathy. <i>Eye and Vision (London, England)</i> , 2020, 7, 4.	3.0	27
107	Small molecular weight G-protein, H-Ras, and retinal endothelial cell apoptosis in diabetes. <i>Molecular and Cellular Biochemistry</i> , 2007, 296, 69-76.	3.1	26
108	Epigenetic modifications in diabetes. <i>Metabolism: Clinical and Experimental</i> , 2022, 126, 154920.	3.4	26

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109	Homocysteine Disrupts Balance between MMP-9 and Its Tissue Inhibitor in Diabetic Retinopathy: The Role of DNA Methylation. <i>International Journal of Molecular Sciences</i> , 2020, 21, 1771.	4.1	25
110	Interleukin-1 β and mitochondria damage, and the development of diabetic retinopathy. <i>Journal of Ocular Biology, Diseases, and Informatics</i> , 2011, 4, 3-9.	0.2	22
111	Epigenetic Modifications in Peripheral Blood as Potential Noninvasive Biomarker of Diabetic Retinopathy. <i>Translational Vision Science and Technology</i> , 2019, 8, 43.	2.2	22
112	The Regulatory Role of Rac1, a Small Molecular Weight GTPase, in the Development of Diabetic Retinopathy. <i>Journal of Clinical Medicine</i> , 2019, 8, 965.	2.4	21
113	Translocation of H-Ras and its implications in the development of diabetic retinopathy. <i>Biochemical and Biophysical Research Communications</i> , 2009, 387, 461-466.	2.1	19
114	RACKing up ceramide-induced islet β -cell dysfunction. <i>Biochemical Pharmacology</i> , 2018, 154, 161-169.	4.4	19
115	Nuclear Genome-Encoded Long Noncoding RNAs and Mitochondrial Damage in Diabetic Retinopathy. <i>Cells</i> , 2021, 10, 3271.	4.1	19
116	Effect of PKC β on Retinal Oxygenation Response in Experimental Diabetes. , 2004, 45, 937.		18
117	Diabetic Retinopathy and NADPH Oxidase-2: A Sweet Slippery Road. <i>Antioxidants</i> , 2021, 10, 783.	5.1	17
118	Diabetes regulates small molecular weight G-protein, H-Ras, in the microvasculature of the retina: Implication in the development of retinopathy. <i>Microvascular Research</i> , 2008, 76, 189-193.	2.5	16
119	Hydrogen Sulfide: A Potential Therapeutic Target in the Development of Diabetic Retinopathy. , 2020, 61, 35.		16
120	Regulation of Rac1 transcription by histone and DNA methylation in diabetic retinopathy. <i>Scientific Reports</i> , 2021, 11, 14097.	3.3	15
121	Termination of experimental galactosemia in rats, and progression of retinal metabolic abnormalities. <i>Investigative Ophthalmology and Visual Science</i> , 2002, 43, 3287-91.	3.3	15
122	The role of Raf-1 kinase in diabetic retinopathy. <i>Expert Opinion on Therapeutic Targets</i> , 2011, 15, 357-364.	3.4	14
123	Diabetic Retinopathy: Mitochondria Caught in a Muddle of Homocysteine. <i>Journal of Clinical Medicine</i> , 2020, 9, 3019.	2.4	12
124	Mitochondrial Dynamics in the Metabolic Memory of Diabetic Retinopathy. <i>Journal of Diabetes Research</i> , 2022, 2022, 1-14.	2.3	12
125	Mitochondrial Fragmentation in a High Homocysteine Environment in Diabetic Retinopathy. <i>Antioxidants</i> , 2022, 11, 365.	5.1	8
126	Capillary Dropout in Diabetic Retinopathy. , 2008, , 265-282.		7

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127	Role of raf-1 kinase in diabetes-induced accelerated apoptosis of retinal capillary cells. International Journal of Biomedical Science, 2008, 4, 20-8.	0.1	4
128	Role of retinal mitochondria in the development of diabetic retinopathy. Expert Review of Ophthalmology, 2007, 2, 237-247.	0.6	2
129	Deciphering ocular diseases on an epigenetic platform. , 2019, , 117-138.		1
130	Epigenetics and Mitochondrial Stability in Diabetic Retinopathy. Diabetes, 2018, 67, .	0.6	1
131	Long Noncoding RNAs and Mitochondrial Homeostasis in the Development of Diabetic Retinopathy. Frontiers in Endocrinology, 2022, 13, .	3.5	1
132	Involvement of High Mobility Group Box 1 Protein in Optic Nerve Damage in Diabetes. Eye and Brain, 2022, Volume 14, 59-69.	2.5	0