## Willard M Freeman

List of Publications by Year in descending order

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131 papers 7,758 citations

71102 41 h-index 81 g-index

143 all docs

143
docs citations

143 times ranked 10528 citing authors

#	Article	IF	CITATIONS
1	Twenty-five years of quantitative PCR for gene expression analysis. BioTechniques, 2008, 44, 619-626.	1.8	961
2	Quantitative RT-PCR: Pitfalls and Potential. BioTechniques, 1999, 26, 112-125.	1.8	924
3	Diabetic Retinopathy. Diabetes, 2006, 55, 2401-2411.	0.6	673
4	The role of DNA methylation in epigenetics of aging. , 2019, 195, 172-185.		216
5	Tyrosine mRNA is expressed in human substantia nigra. Molecular Brain Research, 1997, 45, 159-162.	2.3	194
6	Fundamentals of DNA Hybridization Arrays for Gene Expression Analysis. BioTechniques, 2000, 29, 1042-1055.	1.8	161
7	Circulating Cytokines as Biomarkers of Alcohol Abuse and Alcoholism. Journal of Neurolmmune Pharmacology, 2010, 5, 83-91.	4.1	161
8	Sexually divergent induction of microglial-associated neuroinflammation with hippocampal aging. Journal of Neuroinflammation, 2017, 14, 141.	7.2	142
9	Focused, high accuracy 5-methylcytosine quantitation with base resolution by benchtop next-generation sequencing. Epigenetics and Chromatin, 2013, 6, 33.	3.9	127
10	Hippocampal dysregulation of synaptic plasticity-associated proteins with age-related cognitive decline. Neurobiology of Disease, 2011, 43, 201-212.	4.4	120
11	Insulin-like growth factor receptor signaling regulates working memory, mitochondrial metabolism, and amyloid- $\hat{l}^2$ uptake in astrocytes. Molecular Metabolism, 2018, 9, 141-155.	6.5	119
12	Chronic cocaine-mediated changes in non-human primate nucleus accumbens gene expression. Journal of Neurochemistry, 2001, 77, 542-549.	3.9	115
13	Concurrent hippocampal induction of MHC II pathway components and glial activation with advanced aging is not correlated with cognitive impairment. Journal of Neuroinflammation, 2011, 8, 138.	7.2	111
14	Persistent Alterations in Mesolimbic Gene Expression with Abstinence from Cocaine Self-Administration. Neuropsychopharmacology, 2008, 33, 1807-1817.	<b>5.</b> 4	110
15	Aging alters the expression of neurotransmissionâ€regulating proteins in the hippocampal synaptoproteome. Journal of Neurochemistry, 2010, 113, 1577-1588.	3.9	109
16	Proteomics for Protein Expression Profiling in Neuroscience. Neurochemical Research, 2004, 29, 1065-1081.	3.3	103
17	Whole genome assessment of the retinal response to diabetes reveals a progressive neurovascular inflammatory response. BMC Medical Genomics, 2008, 1, 26.	1.5	98
18	Insulin-like growth factor-1 in CNS and cerebrovascular aging. Frontiers in Aging Neuroscience, 2013, 5, 27.	3.4	98

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19	Diabetes downregulates presynaptic proteins and reduces basal synapsin I phosphorylation in rat retina. European Journal of Neuroscience, 2008, 28, 1-11.	2.6	87
20	Manganese-Induced Cytotoxicity in Dopamine-Producing Cells. NeuroToxicology, 2004, 25, 543-553.	3.0	83
21	The Retinal Proteome in Experimental Diabetic Retinopathy. Molecular and Cellular Proteomics, 2009, 8, 767-779.	3.8	79
22	Alterations in ionotropic glutamate receptor subunits during binge cocaine self-administration and withdrawal in rats. Journal of Neurochemistry, 2004, 89, 1021-1033.	3.9	77
23	Targeted DNA Methylation Analysis by Next-generation Sequencing. Journal of Visualized Experiments, 2015, , .	0.3	72
24	Revisiting the genomic hypomethylation hypothesis of aging. Annals of the New York Academy of Sciences, 2018, 1418, 69-79.	3.8	72
25	Obesity in Aging Exacerbates Neuroinflammation, Dysregulating Synaptic Function-Related Genes and Altering Eicosanoid Synthesis in the Mouse Hippocampus: Potential Role in Impaired Synaptic Plasticity and Cognitive Decline. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2019, 74, 290-298.	3.6	72
26	Effects of Ischemic Preconditioning and Bevacizumab on Apoptosis and Vascular Permeability Following Retinal Ischemia–Reperfusion Injury. , 2010, 51, 5920.		70
27	Sexually divergent <scp>DNA</scp> methylation patterns with hippocampal aging. Aging Cell, 2017, 16, 1342-1352.	6.7	67
28	The Hippocampal Neuroproteome with Aging and Cognitive Decline: Past Progress and Future Directions. Frontiers in Aging Neuroscience, 2011, 3, 8.	3.4	57
29	Circulating IGF1 regulates hippocampal IGF1 levels and brain gene expression during adolescence. Journal of Endocrinology, 2011, 211, 27-37.	2.6	55
30	Neuroglial Expression of the MHCI Pathway and PirB Receptor Is Upregulated in the Hippocampus with Advanced Aging. Journal of Molecular Neuroscience, 2012, 48, 111-126.	2.3	53
31	Differential Gene Expression in Tamoxifen-Resistant Breast Cancer Cells Revealed by a New Analytical Model of RNA-Seq Data. PLoS ONE, 2012, 7, e41333.	2.5	53
32	Changes in rat frontal cortex gene expression following chronic cocaine. Molecular Brain Research, 2002, 104, 11-20.	2.3	52
33	Gene expression changes in the medial prefrontal cortex and nucleus accumbens following abstinence from cocaine self-administration. BMC Neuroscience, 2010, 11, 29.	1.9	52
34	CNS-wide Sexually Dimorphic Induction of the Major Histocompatibility Complex 1 Pathway With Aging. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2017, 72, 16-29.	3.6	52
35	Mitochondrial oxidative stress impairs contractile function but paradoxically increases muscle mass via fibre branching. Journal of Cachexia, Sarcopenia and Muscle, 2019, 10, 411-428.	7.3	50
36	Nanoliposomal minocycline for ocular drug delivery. Nanomedicine: Nanotechnology, Biology, and Medicine, 2013, 9, 130-140.	3.3	49

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37	Heroin self-administration: II. CNS gene expression following withdrawal and cue-induced drug-seeking behavior. Pharmacology Biochemistry and Behavior, 2008, 90, 349-356.	2.9	48
38	Use of Microarray Technologies in Toxicology Research. NeuroToxicology, 2003, 24, 321-332.	3.0	47
39	Transcriptome analysis of frontal cortex in alcohol-preferring and nonpreferring rats. Journal of Neuroscience Research, 2005, 80, 529-538.	2.9	46
40	Gene expression changes following extinction testing in a heroin behavioral incubation model. BMC Neuroscience, 2009, 10, 95.	1.9	45
41	Hippocampal expression of myelinâ€associated inhibitors is induced with ageâ€related cognitive decline and correlates with deficits of spatial learning and memory. Journal of Neurochemistry, 2012, 121, 77-98.	3.9	45
42	Absence of genomic hypomethylation or regulation of cytosine-modifying enzymes with aging in male and female mice. Epigenetics and Chromatin, 2016, 9, 30.	3.9	45
43	Caloric restriction mitigates age-associated hippocampal differential CG and non-CG methylation. Neurobiology of Aging, 2018, 67, 53-66.	3.1	45
44	Multi-Modal Proteomic Analysis of Retinal Protein Expression Alterations in a Rat Model of Diabetic Retinopathy. PLoS ONE, 2011, 6, e16271.	2.5	44
45	Induction of GADD45 and GADD153 in Neuroblastoma Cells by Dopamine-Induced Toxicity. NeuroToxicology, 2002, 23, 675-684.	3.0	43
46	Hippocampal Subregions Exhibit Both Distinct and Shared Transcriptomic Responses to Aging and Nonneurodegenerative Cognitive Decline. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2014, 69, 1311-1324.	3.6	43
47	Recent Developments in Understanding Brain Aging: Implications for Alzheimer's Disease and Vascular Cognitive Impairment. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2016, 71, 13-20.	3.6	42
48	Age-related changes in the expression and oxidation of bronchoalveolar lavage proteins in the rat. American Journal of Physiology - Lung Cellular and Molecular Physiology, 2009, 296, L14-L29.	2.9	40
49	Analysis of DNA modifications in aging research. GeroScience, 2018, 40, 11-29.	4.6	39
50	Transcriptomic comparison of the retina in two mouse models of diabetes. Journal of Ocular Biology, Diseases, and Informatics, 2009, 2, 202-213.	0.2	35
51	Clinical application for the preservation of phospho-proteins through in-situ tissue stabilization. Proteome Science, 2010, 8, 61.	1.7	35
52	Many chronological aging clocks can be found throughout the epigenome: Implications for quantifying biological aging. Aging Cell, 2021, 20, e13492.	6.7	35
53	Exposure to environmental enrichment attenuates addiction-like behavior and alters molecular effects of heroin self-administration in rats. Neuropharmacology, 2018, 139, 26-40.	4.1	34
54	17αâ€estradiol acts through hypothalamic proâ€opiomelanocortin expressing neurons to reduce feeding behavior. Aging Cell, 2018, 17, e12703.	6.7	33

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55	Repeated cocaine self-administration causes multiple changes in rat frontal cortex gene expression. Neurochemical Research, 2002, 27, 1181-1192.	3.3	32
56	The impact of surfactant protein-A on ozone-induced changes in the mouse bronchoalveolar lavage proteome. Proteome Science, 2009, 7, 12.	1.7	32
57	TPH2 in the ventral tegmental area of the male rat brain. Brain Research Bulletin, 2011, 84, 376-380.	3.0	32
58	Future Prospects for Biomarkers of Alcohol Consumption and Alcoholâ€Induced Disorders. Alcoholism: Clinical and Experimental Research, 2010, 34, 946-954.	2.4	31
59	Cigarette Smoke Activates NOTCH3 to Promote Goblet Cell Differentiation in Human Airway Epithelial Cells. American Journal of Respiratory Cell and Molecular Biology, 2021, 64, 426-440.	2.9	31
60	Protein biomarkers of alcohol abuse. Expert Review of Proteomics, 2012, 9, 425-436.	3.0	30
61	Assessment of individual differences in the rat nucleus accumbens transcriptome following taste-heroin extended access. Brain Research Bulletin, 2016, 123, 71-80.	3.0	30
62	Cellular hallmarks of aging emerge in the ovary prior to primordial follicle depletion. Mechanisms of Ageing and Development, 2021, 194, 111425.	4.6	30
63	Health benefits attributed to 17α-estradiol, a lifespan-extending compound, are mediated through estrogen receptorÂα. ELife, 2020, 9, .	6.0	30
64	A Longitudinal Analysis of Circulating Stressâ€Related Proteins and Chronic Ethanol Selfâ€Administration in Cynomolgus Macaques. Alcoholism: Clinical and Experimental Research, 2012, 36, 995-1003.	2.4	29
65	Integrative transcriptomic and proteomic analysis of osteocytic cells exposed to fluid flow reveals novel mechano-sensitive signaling pathways. Journal of Biomechanics, 2014, 47, 1838-1845.	2.1	29
66	Plasma Biomarkers in Pediatric Patients Undergoing Cardiopulmonary Bypass. Pediatric Research, 2008, 63, 638-644.	2.3	28
67	Short-term Calorie Restriction and 17α-Estradiol Administration Elicit Divergent Effects on Proteostatic Processes and Protein Content in Metabolically Active Tissues. Journals of Gerontology - Series A Biological Sciences and Medical Sciences, 2020, 75, 849-857.	3.6	28
68	Age-related alterations in retinal neurovascular and inflammatory transcripts. Molecular Vision, 2011, 17, 1261-74.	1.1	28
69	Correlating Human and Animal Studies of Cocaine Abuse and Gene Expression. Annals of the New York Academy of Sciences, 2008, 1141, 58-75.	3.8	27
70	Inducible cell-specific mouse models for paired epigenetic and transcriptomic studies of microglia and astroglia. Communications Biology, 2020, 3, 693.	4.4	27
71	Minimizing the <i>Ex Vivo</i> Confounds of Cell-Isolation Techniques on Transcriptomic and Translatomic Profiles of Purified Microglia. ENeuro, 2022, 9, ENEURO.0348-21.2022.	1.9	27
72	Differences in the BAL proteome after Klebsiella pneumoniae infection in wild type and SP-A-/- mice. Proteome Science, 2010, 8, 34.	1.7	25

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73	FOXO3a elicits a pro-apoptotic transcription program and cellular response to human lung carcinogen nicotine-derived nitrosaminoketone (NNK). Lung Cancer, 2010, 67, 37-47.	2.0	25
74	Loss of the antioxidant enzyme CuZnSOD (Sod1) mimics an age-related increase in absolute mitochondrial DNA copy number in the skeletal muscle. Age, 2016, 38, 323-333.	3.0	24
75	Functional changes in the neural retina occur in the absence of mitochondrial dysfunction in a rodent model of diabetic retinopathy. Journal of Neurochemistry, 2017, 143, 595-608.	3.9	24
76	Targeting cPLA2 derived lipid hydroperoxides as a potential intervention for sarcopenia. Scientific Reports, 2020, 10, 13968.	3.3	24
77	Chronic insulin treatment of diabetes does not fully normalize alterations in the retinal transcriptome. BMC Medical Genomics, 2011, 4, 40.	1.5	23
78	Increased hippocampal NgR1 signaling machinery in aged rats with deficits of spatial cognition. European Journal of Neuroscience, 2013, 37, 1643-1658.	2.6	23
79	Role of DNA methylation in the dietary restriction mediated cellular memory. GeroScience, 2017, 39, 331-345.	4.6	23
80	Dual-Platform Proteomics Study of Plasma Biomarkers in Pediatric Patients Undergoing Cardiopulmonary Bypass. Pediatric Research, 2010, 67, 641-649.	2.3	22
81	Classification of Alcohol Abuse by Plasma Protein Biomarkers. Biological Psychiatry, 2010, 68, 219-222.	1.3	22
82	Quantification of Hepatic UDP Glucuronosyltransferase 1A Splice Variant Expression and Correlation of UDP Glucuronosyltransferase 1A1 Variant Expression with Glucuronidation Activity. Journal of Pharmacology and Experimental Therapeutics, 2012, 342, 720-729.	2.5	22
83	Early-life DNA methylation profiles are indicative of age-related transcriptome changes. Epigenetics and Chromatin, 2019, 12, 58.	3.9	22
84	Canonical Wnt Signaling Promotes Neovascularization Through Determination of Endothelial Progenitor Cell Fate via Metabolic Profile Regulation. Stem Cells, 2019, 37, 1331-1343.	3.2	22
85	Molecular changes in transcription and metabolic pathways underlying muscle atrophy in the CuZnSOD null mouse model of sarcopenia. GeroScience, 2020, 42, 1101-1118.	4.6	22
86	Retinal gene expression responses to aging are sexually divergent. Molecular Vision, 2017, 23, 707-717.	1.1	22
87	Scavenging mitochondrial hydrogen peroxide by peroxiredoxin 3 overexpression attenuates contractile dysfunction and muscle atrophy in a murine model of accelerated sarcopenia. Aging Cell, 2022, 21, e13569.	6.7	22
88	Persistent proteomic alterations in the medial prefrontal cortex with abstinence from cocaine selfâ€administration. Proteomics - Clinical Applications, 2009, 3, 462-472.	1.6	21
89	Tamoxifen induction of Cre recombinase does not cause long-lasting or sexually divergent responses in the CNS epigenome or transcriptome: implications for the design of aging studies. GeroScience, 2019, 41, 691-708.	4.6	20
90	Depletion of abundant proteins from non-human primate serum for biomarker studies. Proteomics, 2006, 6, 3109-3113.	2.2	19

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91	Detrimental effects of duplicate reads and low complexity regions on RNA- and ChIP-seq data. BMC Bioinformatics, 2015, 16, S10.	2.6	19
92	Expression of NgR1-Antagonizing Proteins Decreases with Aging and Cognitive Decline in Rat Hippocampus. Cellular and Molecular Neurobiology, 2013, 33, 483-488.	<b>3.</b> 3	18
93	APO-AII IS AN ELEVATED BIOMARKER OF CHRONIC NON-HUMAN PRIMATE ETHANOL SELF-ADMINISTRATION. Alcohol and Alcoholism, 2006, 41, 300-305.	1.6	17
94	Human Embryonic and Mesenchymal Stem Cells Express Different Nuclear Proteomes. Stem Cells and Development, 2009, 18, 793-802.	2.1	17
95	The use of neuroproteomics in drug abuse research. Drug and Alcohol Dependence, 2010, 107, 11-22.	3.2	17
96	Gene expression profiles in HPV-immortalized human cervical cells treated with the nicotine-derived carcinogen 4-(methylnitrosamino)-1-(3-pyridyl)-1-butanone. Chemico-Biological Interactions, 2009, 177, 173-180.	4.0	16
97	A potential common role of the Jumonji C domain‑containing 1A histone demethylase and chromatin remodeler ATRX in promoting colon cancer. Oncology Letters, 2018, 16, 6652-6662.	1.8	16
98	Age-related focal loss of contractile vascular smooth muscle cells in retinal arterioles is accelerated by caveolin-1 deficiency. Neurobiology of Aging, 2018, 71, 1-12.	3.1	16
99	Reward devaluation and heroin escalation is associated with differential expression of CRF signaling genes. Brain Research Bulletin, 2016, 123, 81-93.	3.0	15
100	Female mice are resilient to age-related decline of substantia nigra dopamine neuron firing parameters. Neurobiology of Aging, 2020, 95, 195-204.	3.1	15
101	Plasma proteomics: a noninvasive window on pathology and pediatric cardiac surgery. ASAIO Journal, 2006, 52, 562-6.	1.6	15
102	Plasma proteomic alterations in non-human primates and humans after chronic alcohol self-administration. International Journal of Neuropsychopharmacology, 2011, 14, 899-911.	2.1	14
103	The Kinetics of Cardiopulmonary Bypass: A Dualâ€Platform Proteomics Study of Plasma Biomarkers in Pediatric Patients Undergoing Cardiopulmonary Bypass. Artificial Organs, 2012, 36, E1-20.	1.9	14
104	Insulin treatment normalizes retinal neuroinflammation but not markers of synapse loss in diabetic rats. Experimental Eye Research, 2014, 125, 95-106.	2.6	14
105	Bisulfite oligonucleotide-capture sequencing for targeted base- and strand-specific absolute 5-methylcytosine quantitation. Age, 2016, 38, 49.	3.0	14
106	PCR-based apolipoprotein E genotype analysis from archival fixed brain. Journal of Neuroscience Methods, 1998, 80, 209-214.	2.5	13
107	Individual Differences in Hyperlipidemia and Vitamin E Status in Response to Chronic Alcohol Self-Administration in Cynomolgus Monkeys. Alcoholism: Clinical and Experimental Research, 2011, 35, 474-483.	2.4	12
108	Heart and neural crest derivative 2â€induced preservation of sympathetic neurons attenuates sarcopenia with aging. Journal of Cachexia, Sarcopenia and Muscle, 2021, 12, 91-108.	7.3	12

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109	Longâ€term, induced expression of Hand2 in peripheral sympathetic neurons ameliorates sarcopenia in geriatric mice. Journal of Cachexia, Sarcopenia and Muscle, 2021, 12, 1908-1924.	7.3	11
110	Differential Regulation of Mouse Hippocampal Gene Expression Sex Differences by Chromosomal Content and Gonadal Sex. Molecular Neurobiology, 2022, 59, 4669-4702.	4.0	11
111	Effect of cold perfusion and perfluorocarbons on liver graft ischemia in a donation after cardiac death model. Journal of Surgical Research, 2014, 188, 517-526.	1.6	10
112	An Interactive Database of Cocaine-Responsive Gene Expression. Scientific World Journal, The, 2002, 2, 701-706.	2.1	9
113	2â€D DIGE identification of differentially expressed heterogeneous nuclear ribonucleoproteins and transcription factors during neural differentiation of human embryonic stem cells. Proteomics - Clinical Applications, 2009, 3, 505-514.	1.6	9
114	Expression of the purine biosynthetic enzyme phosphoribosyl formylglycinamidine synthase in neurons. Journal of Neurochemistry, 2018, 144, 723-735.	3.9	9
115	Weight Loss Results in Increased Expression of Antiâ€Inflammatory Protein CRISPLD2 in Mouse Adipose Tissue. Obesity, 2019, 27, 2025-2036.	3.0	7
116	Litter expansion alters metabolic homeostasis in a sex specific manner. PLoS ONE, 2021, 16, e0237199.	2.5	6
117	Repeated cocaine or methamphetamine treatment alters astrocytic CRF2 and GLAST expression in the ventral midbrain. Addiction Biology, 2022, 27, e13120.	2.6	5
118	Penn State Hersheyâ€"Center for Pediatric Cardiovascular Research. Artificial Organs, 2009, 33, 883-887.	1.9	4
119	Isolation of Neuronal Synaptic Membranes by Sucrose Gradient Centrifugation. Methods in Molecular Biology, 2017, 1609, 33-41.	0.9	4
120	A cocaine analog, $2\hat{l}^2$ -propanoyl- $3\hat{l}^2$ -(4-tolyl)-tropane (PTT), reduces tyrosine hydroxylase in the mesolimbic dopamine pathway. Drug and Alcohol Dependence, 2000, 61, 15-21.	3.2	3
121	Functional Genomic Analysis in Pain Research Using Hybridization Arrays. , 2004, 99, 239-253.		3
122	Exercising your mind. Science, 2020, 369, 144-145.	12.6	3
123	Pediatric cardiopulmonary bypass circuits: a review of studies conducted at the Penn State Pediatric Cardiac Research Laboratories. Journal of Extra-Corporeal Technology, 2009, 41, P50-8.	0.4	3
124	Chronic cocaine-mediated changes in non-human primate nucleus accumbens gene expression. Journal of Neurochemistry, 2001, 77, 1423-1423.	3.9	2
125	Oklahoma Nathan Shock Aging Center — assessing the basic biology of aging from genetics to protein and function. GeroScience, 2021, 43, 2183-2203.	4.6	2
126	A Comparative Proteomic Analysis of Bronchoalveolar Lavage Fluid in Rats with Aging using 2â€DIGE and MALDIâ€ToF/ToF. FASEB Journal, 2007, 21, A1401.	0.5	2

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127	CNS Genes Implicated in Relapse. Substance Abuse: Research and Treatment, 2008, 2, SART.S1042.	0.9	1
128	Quantitative Proteomic Profiles of BALF in Wild Type and SPâ€A KO Mice after Exposure to Ozone. FASEB Journal, 2007, 21, A9.	0.5	1
129	Systematic Screening of Gene Expression Using a cDNA Macroarray. , 2003, 79, 243-260.		O
130	Heterochronic Plasma Transfer Alters Proteostatic Maintenance in Skeletal Muscle. FASEB Journal, 2021, 35, .	0.5	0
131	Proteomic Analysis of Changes Mediating Tolerance to Dopamine D1 Agonists: Implications for Parkinson's Disease (PD). FASEB Journal, 2011, 25, 1005.1.	0.5	0