Lennart Mucke

List of Publications by Citations

122 papers	30,971 citations	79 h-index	131 g-index
131 ext. papers	34,836 ext. citations	15.6 avg, IF	7.15 L-index

#	Paper	IF	Citations
122	Alzheimer-type neuropathology in transgenic mice overexpressing V717F beta-amyloid precursor protein. *Nature*, **1995**, 373, 523-7	50.4	2238
121	Dopaminergic loss and inclusion body formation in alpha-synuclein mice: implications for neurodegenerative disorders. *Science*, **2000**, 287, 1265-9	33.3	1526
120	High-level neuronal expression of abeta 1-42 in wild-type human amyloid protein precursor transgenic mice: synaptotoxicity without plaque formation. *Journal of Neuroscience*, **2000**, 20, 4050-8	6.6	1507
119	Reducing endogenous tau ameliorates amyloid beta-induced deficits in an Alzheimer's disease mouse model. *Science*, **2007**, 316, 750-4	33.3	1431
118	Alzheimer mechanisms and therapeutic strategies. *Cell*, **2012**, 148, 1204-22	56.2	1278
117	Amyloid-beta-induced neuronal dysfunction in Alzheimer's disease: from synapses toward neural networks. *Nature Neuroscience*, **2010**, 13, 812-8	25.5	1106
116	Aberrant excitatory neuronal activity and compensatory remodeling of inhibitory hippocampal circuits in mouse models of Alzheimer's disease. *Neuron*, **2007**, 55, 697-711	13.9	1038
115	Inflammation in neurodegenerative disease--a double-edged sword. *Neuron*, **2002**, 35, 419-32	13.9	927
114	Leukocyte infiltration, neuronal degeneration, and neurite outgrowth after ablation of scar-forming, reactive astrocytes in adult transgenic mice. *Neuron*, **1999**, 23, 297-308	13.9	822
113	Inhibitory interneuron deficit links altered network activity and cognitive dysfunction in Alzheimer model. *Cell*, **2012**, 149, 708-21	56.2	655
112	Neurotoxicity of amyloid β protein: synaptic and network dysfunction. *Cold Spring Harbor Perspectives in Medicine*, **2012**, 2, a006338	5.4	651
111	The many faces of tau. *Neuron*, **2011**, 70, 410-26	13.9	617
110	Central nervous system damage produced by expression of the HIV-1 coat protein gp120 in transgenic mice. *Nature*, **1994**, 367, 188-93	50.4	604
109	SIRT1 protects against microglia-dependent amyloid-beta toxicity through inhibiting NF-kappaB signaling. *Journal of Biological Chemistry*, **2005**, 280, 40364-74	5.4	569
108	TGF-beta1 promotes microglial amyloid-beta clearance and reduces plaque burden in transgenic mice. *Nature Medicine*, **2001**, 7, 612-8	50.5	507
107	A network dysfunction perspective on neurodegenerative diseases. *Nature*, **2006**, 443, 768-73	50.4	489
106	Amyloid-β Fyn-induced synaptic, network, and cognitive impairments depend on tau levels in multiple mouse models of Alzheimer's disease. *Journal of Neuroscience*, **2011**, 31, 700-11	6.6	479

105	Epilepsy and cognitive impairments in Alzheimer disease. *Archives of Neurology*, **2009**, 66, 435-40		458
104	Fulminant jejuno-ileitis following ablation of enteric glia in adult transgenic mice. *Cell*, **1998**, 93, 189-201	56.2	453
103	100 years and counting: prospects for defeating Alzheimer's disease. *Science*, **2006**, 314, 781-4	33.3	444
102	Levetiracetam suppresses neuronal network dysfunction and reverses synaptic and cognitive deficits in an Alzheimer's disease model. *Proceedings of the National Academy of Sciences of the United States of America*, **2012**, 109, E2895-903	11.5	404
101	Network abnormalities and interneuron dysfunction in Alzheimer disease. *Nature Reviews Neuroscience*, **2016**, 17, 777-792	13.5	390
100	Seizures and epileptiform activity in the early stages of Alzheimer disease. *JAMA Neurology*, **2013**, 70, 1158-66	17.2	387
99	Tau reduction prevents Abeta-induced defects in axonal transport. *Science*, **2010**, 330, 198	33.3	378
98	Amyloidogenic role of cytokine TGF-beta1 in transgenic mice and in Alzheimer's disease. *Nature*, **1997**, 389, 603-6	50.4	366
97	Comparison of neurodegenerative pathology in transgenic mice overexpressing V717F beta-amyloid precursor protein and Alzheimer's disease. *Journal of Neuroscience*, **1996**, 16, 5795-811	6.6	350
96	Neuronal depletion of calcium-dependent proteins in the dentate gyrus is tightly linked to Alzheimer's disease-related cognitive deficits. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 9572-7	11.5	322
95	Accelerating amyloid-beta fibrillization reduces oligomer levels and functional deficits in Alzheimer disease mouse models. *Journal of Biological Chemistry*, **2007**, 282, 23818-28	5.4	318
94	Reversing EphB2 depletion rescues cognitive functions in Alzheimer model. *Nature*, **2011**, 469, 47-52	50.4	317
93	Expression of human apolipoprotein E3 or E4 in the brains of Apoe-/- mice: isoform-specific effects on neurodegeneration. *Journal of Neuroscience*, **1999**, 19, 4867-80	6.6	311
92	Antiamyloidogenic and neuroprotective functions of cathepsin B: implications for Alzheimer's disease. *Neuron*, **2006**, 51, 703-14	13.9	300
91	Physiologic brain activity causes DNA double-strand breaks in neurons, with exacerbation by amyloid-*Nature Neuroscience*, **2013**, 16, 613-21	25.5	296
90	Tau post-translational modifications in wild-type and human amyloid precursor protein transgenic mice. *Nature Neuroscience*, **2015**, 18, 1183-9	25.5	295
89	Neuron-specific apolipoprotein e4 proteolysis is associated with increased tau phosphorylation in brains of transgenic mice. *Journal of Neuroscience*, **2004**, 24, 2527-34	6.6	289
88	Carboxyl-terminal-truncated apolipoprotein E4 causes Alzheimer's disease-like neurodegeneration and behavioral deficits in transgenic mice. *Proceedings of the National Academy of Sciences of the United States of America*, **2003**, 100, 10966-71	11.5	268

87	Phospholipase A2 reduction ameliorates cognitive deficits in a mouse model of Alzheimer's disease. *Nature Neuroscience*, **2008**, 11, 1311-8	25.5	265
86	Fyn kinase induces synaptic and cognitive impairments in a transgenic mouse model of Alzheimer's disease. *Journal of Neuroscience*, **2005**, 25, 9694-703	6.6	252
85	Deficiency in neuronal TGF-beta signaling promotes neurodegeneration and Alzheimer's pathology. *Journal of Clinical Investigation*, **2006**, 116, 3060-9	15.9	246
84	Transsynaptic progression of amyloid-β-induced neuronal dysfunction within the entorhinal-hippocampal network. *Neuron*, **2010**, 68, 428-41	13.9	237
83	Cellular signaling roles of TGF beta, TNF alpha and beta APP in brain injury responses and Alzheimer's disease. *Brain Research Reviews*, **1997**, 23, 47-61		221
82	Incidence and impact of subclinical epileptiform activity in Alzheimer's disease. *Annals of Neurology*, **2016**, 80, 858-870	9.4	218
81	Levels and alternative splicing of amyloid beta protein precursor (APP) transcripts in brains of APP transgenic mice and humans with Alzheimer's disease. *Journal of Biological Chemistry*, **1995**, 270, 28257-67	5.4	206
80	Chronic overproduction of transforming growth factor-beta1 by astrocytes promotes Alzheimer's disease-like microvascular degeneration in transgenic mice. *American Journal of Pathology*, **2000**, 156, 139-50	5.8	202
79	Reduction in mitochondrial superoxide dismutase modulates Alzheimer's disease-like pathology and accelerates the onset of behavioral changes in human amyloid precursor protein transgenic mice. *Journal of Neuroscience*, **2006**, 26, 5167-79	6.6	194
78	Apolipoprotein E and cognitive performance. *Nature*, **2000**, 404, 352-4	50.4	193
77	Astrocytes in infectious and immune-mediated diseases of the central nervous system. *FASEB Journal*, **1993**, 7, 1226-32	0.9	185
76	Life extension factor klotho enhances cognition. *Cell Reports*, **2014**, 7, 1065-76	10.6	166
75	Astrocytic adenosine receptor A2A and Gs-coupled signaling regulate memory. *Nature Neuroscience* , **2015**, 18, 423-34	25.5	165
74	Modulation of Alzheimer-like synaptic and cholinergic deficits in transgenic mice by human apolipoprotein E depends on isoform, aging, and overexpression of amyloid beta peptides but not on plaque formation. *Journal of Neuroscience*, **2002**, 22, 10539-48	6.6	165
73	Androgens protect against apolipoprotein E4-induced cognitive deficits. *Journal of Neuroscience*, **2002**, 22, 5204-9	6.6	161
72	Progranulin protects against amyloid β deposition and toxicity in Alzheimer's disease mouse models. *Nature Medicine*, **2014**, 20, 1157-64	50.5	153
71	Paths of convergence: sirtuins in aging and neurodegeneration. *Neuron*, **2008**, 58, 10-4	13.9	153
70	Apolipoprotein E: diversity of cellular origins, structural and biophysical properties, and effects in Alzheimer's disease. *Journal of Molecular Neuroscience*, **2004**, 23, 189-204	3.3	144

69	Fyn kinase modulates synaptotoxicity, but not aberrant sprouting, in human amyloid precursor protein transgenic mice. *Journal of Neuroscience*, **2004**, 24, 4692-7	6.6	140
68	Fibrinogen Induces Microglia-Mediated Spine Elimination and Cognitive Impairment in an Alzheimer's Disease Model. *Neuron*, **2019**, 101, 1099-1108.e6	13.9	139
67	Astroglial overproduction of TGF-beta 1 enhances inflammatory central nervous system disease in transgenic mice. *Journal of Neuroimmunology*, **1997**, 77, 45-50	3.5	135
66	Neuron-specific expression of a hamster prion protein minigene in transgenic mice induces susceptibility to hamster scrapie agent. *Neuron*, **1995**, 15, 1183-91	13.9	133
65	Reelin depletion in the entorhinal cortex of human amyloid precursor protein transgenic mice and humans with Alzheimer's disease. *Journal of Neuroscience*, **2007**, 27, 2727-33	6.6	132
64	Vulnerability of dentate granule cells to disruption of arc expression in human amyloid precursor protein transgenic mice. *Journal of Neuroscience*, **2005**, 25, 9686-93	6.6	130
63	Prevention of HIV-1 gp120-induced neuronal damage in the central nervous system of transgenic mice by the NMDA receptor antagonist memantine. *Brain Research*, **1996**, 706, 303-7	3.7	125
62	Many neuronal and behavioral impairments in transgenic mouse models of Alzheimer's disease are independent of caspase cleavage of the amyloid precursor protein. *Journal of Neuroscience*, **2010**, 30, 372-81	6.6	111
61	Neprilysin overexpression inhibits plaque formation but fails to reduce pathogenic Abeta oligomers and associated cognitive deficits in human amyloid precursor protein transgenic mice. *Journal of Neuroscience*, **2009**, 29, 1977-86	6.6	111
60	Aggressive amyloidosis in mice expressing human amyloid peptides with the Arctic mutation. *Nature Medicine*, **2004**, 10, 1190-2	50.5	111
59	Synaptic depression and aberrant excitatory network activity in Alzheimer's disease: two faces of the same coin?. *NeuroMolecular Medicine*, **2010**, 12, 48-55	4.6	108
58	PKCepsilon increases endothelin converting enzyme activity and reduces amyloid plaque pathology in transgenic mice. *Proceedings of the National Academy of Sciences of the United States of America*, **2006**, 103, 8215-20	11.5	107
57	Hypothalamic-pituitary-adrenal dysfunction in Apoe(-/-) mice: possible role in behavioral and metabolic alterations. *Journal of Neuroscience*, **2000**, 20, 2064-71	6.6	106
56	Life extension factor klotho prevents mortality and enhances cognition in hAPP transgenic mice. *Journal of Neuroscience*, **2015**, 35, 2358-71	6.6	105
55	DNA repair factor BRCA1 depletion occurs in Alzheimer brains and impairs cognitive function in mice. *Nature Communications*, **2015**, 6, 8897	17.4	104
54	Astroglial expression of human alpha(1)-antichymotrypsin enhances alzheimer-like pathology in amyloid protein precursor transgenic mice. *American Journal of Pathology*, **2000**, 157, 2003-10	5.8	100
53	Tau reduction prevents A□nduced axonal transport deficits by blocking activation of GSK3□ *Journal of Cell Biology*, **2015**, 209, 419-33	7.3	99
52	Ablation of cellular prion protein does not ameliorate abnormal neural network activity or cognitive dysfunction in the J20 line of human amyloid precursor protein transgenic mice. *Journal of Neuroscience*, **2011**, 31, 10427-31	6.6	98

51	Tau reduction prevents disease in a mouse model of Dravet syndrome. *Annals of Neurology*, **2014**, 76, 443-56	9.4	95
50	Phospholipase A2 and arachidonic acid in Alzheimer's disease. *Biochimica Et Biophysica Acta - Molecular and Cell Biology of Lipids*, **2010**, 1801, 784-90	5	93
49	Human P301L-mutant tau expression in mouse entorhinal-hippocampal network causes tau aggregation and presynaptic pathology but no cognitive deficits. *PLoS ONE*, **2012**, 7, e45881	3.7	90
48	Collagen VI protects neurons against Abeta toxicity. *Nature Neuroscience*, **2009**, 12, 119-21	25.5	90
47	Fibrin-targeting immunotherapy protects against neuroinflammation and neurodegeneration. *Nature Immunology*, **2018**, 19, 1212-1223	19.1	90
46	Nav1.1-Overexpressing Interneuron Transplants Restore Brain Rhythms and Cognition in a Mouse Model of Alzheimer's Disease. *Neuron*, **2018**, 98, 75-89.e5	13.9	85
45	Age-appropriate cognition and subtle dopamine-independent motor deficits in aged tau knockout mice. *Neurobiology of Aging*, **2013**, 34, 1523-9	5.6	82
44	High beta-secretase activity elicits neurodegeneration in transgenic mice despite reductions in amyloid-beta levels: implications for the treatment of Alzheimer disease. *Journal of Biological Chemistry*, **2005**, 280, 32957-67	5.4	79
43	Expression of A152T human tau causes age-dependent neuronal dysfunction and loss in transgenic mice. *EMBO Reports*, **2016**, 17, 530-51	6.5	77
42	Beta-secretase processing of the beta-amyloid precursor protein in transgenic mice is efficient in neurons but inefficient in astrocytes. *Journal of Biological Chemistry*, **1996**, 271, 31407-11	5.4	74
41	Indicator expression directed by regulatory sequences of the glial fibrillary acidic protein (GFAP) gene: in vivo comparison of distinct GFAP-lacZ transgenes. *Glia*, **1995**, 13, 174-84	9	71
40	Tau reduction diminishes spatial learning and memory deficits after mild repetitive traumatic brain injury in mice. *PLoS ONE*, **2014**, 9, e115765	3.7	70
39	The Psychiatric Cell Map Initiative: A Convergent Systems Biological Approach to Illuminating Key Molecular Pathways in Neuropsychiatric Disorders. *Cell*, **2018**, 174, 505-520	56.2	69
38	Early neuronal accumulation of DNA double strand breaks in Alzheimer's disease. *Acta Neuropathologica Communications*, **2019**, 7, 77	7.3	68
37	Corticotropin-releasing factor and adrenocorticotrophic hormone as potential central mediators of OB effects. *Journal of Biological Chemistry*, **1997**, 272, 15057-60	5.4	68
36	Enkephalin elevations contribute to neuronal and behavioral impairments in a transgenic mouse model of Alzheimer's disease. *Journal of Neuroscience*, **2008**, 28, 5007-17	6.6	62
35	Elimination of the class A scavenger receptor does not affect amyloid plaque formation or neurodegeneration in transgenic mice expressing human amyloid protein precursors. *American Journal of Pathology*, **1999**, 155, 1741-7	5.8	59
34	Spatial learning deficit in mice expressing human 751-amino acid beta-amyloid precursor protein. *NeuroReport*, **1996**, 7, 2807-11	1.7	54

33	Selective targeting of microglia by quantum dots. *Journal of Neuroinflammation*, **2012**, 9, 22	10.1	52
32	Istradefylline reduces memory deficits in aging mice with amyloid pathology. *Neurobiology of Disease*, **2018**, 110, 29-36	7.5	52
31	Phosphorylation of tau at Y18, but not tau-fyn binding, is required for tau to modulate NMDA receptor-dependent excitotoxicity in primary neuronal culture. *Molecular Neurodegeneration*, **2017**, 12, 41	19	49
30	Central nervous system expression of HIV-1 Gp120 activates the hypothalamic-pituitary-adrenal axis: evidence for involvement of NMDA receptors and nitric oxide synthase. *Virology*, **1996**, 226, 362-73	3.6	47
29	Quantifying biomarkers of cognitive dysfunction and neuronal network hyperexcitability in mouse models of Alzheimer's disease: depletion of calcium-dependent proteins and inhibitory hippocampal remodeling. *Methods in Molecular Biology*, **2011**, 670, 245-62	1.4	47
28	Genetically-targeted and conditionally-regulated ablation of astroglial cells in the central, enteric and peripheral nervous systems in adult transgenic mice. *Brain Research*, **1999**, 835, 91-5	3.7	46
27	Klotho controls the brain-immune system interface in the choroid plexus. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E11388-E11396	11.5	46
26	Cellular source of apolipoprotein E4 determines neuronal susceptibility to excitotoxic injury in transgenic mice. *American Journal of Pathology*, **2010**, 177, 563-9	5.8	45
25	Altered navigational strategy use and visuospatial deficits in hAPP transgenic mice. *Neurobiology of Aging*, **2008**, 29, 253-66	5.6	44
24	Amyloid protein precursor stimulates excitatory amino acid transport. Implications for roles in neuroprotection and pathogenesis. *Journal of Biological Chemistry*, **1998**, 273, 12548-54	5.4	44
23	A second X chromosome contributes to resilience in a mouse model of Alzheimer's disease. *Science Translational Medicine*, **2020**, 12,	17.5	40
22	Tau: Enabler of diverse brain disorders and target of rapidly evolving therapeutic strategies. *Science*, **2021**, 371,	33.3	40
21	Neurite outgrowth on non-permissive substrates in vitro is enhanced by ectopic expression of the neural adhesion molecule L1 by mouse astrocytes. *European Journal of Neuroscience*, **1996**, 8, 1085-97	3.5	38
20	Tau Reduction Prevents Key Features of Autism in Mouse Models. *Neuron*, **2020**, 106, 421-437.e11	13.9	29
19	Network dysfunction in α-synuclein transgenic mice and human Lewy body dementia. *Annals of Clinical and Translational Neurology*, **2015**, 2, 1012-28	5.3	28
18	Intracellularly generated amyloid-beta peptide counteracts the antiapoptotic function of its precursor protein and primes proapoptotic pathways for activation by other insults in neuroblastoma cells. *Journal of Neurochemistry*, **2004**, 91, 1260-74	6	26
17	Neuronal levels and sequence of tau modulate the power of brain rhythms. *Neurobiology of Disease* , **2018**, 117, 181-188	7.5	24
16	Novel role of human CD4 molecule identified in neurodegeneration. *Nature Medicine*, **1998**, 4, 441-6	50.5	24

15	Increasing the Receptor Tyrosine Kinase EphB2 Prevents Amyloid-β-Induced Depletion of Cell Surface Glutamate Receptors by a Mechanism That Requires the PDZ-binding Motif of EphB2 and Neuronal Activity. *Journal of Biological Chemistry*, **2016**, 291, 1719-1734	5.4	24
14	Behavioral and neural network abnormalities in human APP transgenic mice resemble those of App knock-in mice and are modulated by familial Alzheimer's disease mutations but not by inhibition of BACE1. *Molecular Neurodegeneration*, **2020**, 15, 53	19	18
13	gp120 and neurotoxicity in vivo. *Trends in Pharmacological Sciences*, **1995**, 16, 122	13.2	17
12	The mouse as a model for neuropsychiatric drug development. *Current Biology*, **2018**, 28, R909-R914	6.3	15
11	Long-term potentiation is independent of the C-tail of the GluA1 AMPA receptor subunit. *ELife*, **2020**, 9,	8.9	12
10	Effect of Levetiracetam on Cognition in Patients With Alzheimer Disease With and Without Epileptiform Activity: A Randomized Clinical Trial. *JAMA Neurology*, **2021**, 78, 1345-1354	17.2	12
9	The integration site of the APP transgene in the J20 mouse model of Alzheimer's disease. *Wellcome Open Research*, **2017**, 2, 84	4.8	11
8	The integration site of the transgene in the J20 mouse model of Alzheimer's disease. *Wellcome Open Research*, **2017**, 2, 84	4.8	10
7	Tau Phosphorylation-Much More than a Biomarker. *Neuron*, **2016**, 92, 265-267	13.9	8
6	Tau reduction affects excitatory and inhibitory neurons differently, reduces excitation/inhibition ratios, and counteracts network hypersynchrony. *Cell Reports*, **2021**, 37, 109855	10.6	8
5	Food for thought: essential fatty acid protects against neuronal deficits in transgenic mouse model of AD. *Neuron*, **2004**, 43, 596-9	13.9	2
4	Phenotypic Differences between the Alzheimer's Disease-Related hAPP-J20 Model and Heterozygous Knock-Out Mice. *ENeuro*, **2021**, 8,	3.9	2
3	Interdependence of neural network dysfunction and microglial alterations in Alzheimer's disease-related models. *IScience*, **2021**, 24, 103245	6.1	1
2	TAU ablation in excitatory neurons and postnatal TAU knockdown reduce epilepsy, SUDEP, and autism behaviors in a Dravet syndrome model.. *Science Translational Medicine*, **2022**, 14, eabm5527	17.5	1
1	Androgen Treatment Reduces Cognitive Deficits in Female apoE4 Transgenic Mice747-757		