Susumu Tonegawa

List of Publications by Citations

91 papers	22,133 citations	64 h-index	94 g-index
94 ext. papers	25,572 ext. citations	25.5 avg, IF	7.03 L-index

#	Paper	IF	Citations
91	Somatic generation of antibody diversity. *Nature*, **1983**, 302, 575-81	50.4	3628
90	Mutations in T-cell antigen receptor genes alpha and beta block thymocyte development at different stages. *Nature*, **1992**, 360, 225-31	50.4	942
89	Optogenetic stimulation of a hippocampal engram activates fear memory recall. *Nature*, **2012**, 484, 381-5	50.4	909
88	Requirement for hippocampal CA3 NMDA receptors in associative memory recall. *Science*, **2002**, 297, 211-8	33.3	822
87	Dentate gyrus NMDA receptors mediate rapid pattern separation in the hippocampal network. *Science*, **2007**, 317, 94-9	33.3	704
86	Complete primary structure of a heterodimeric T-cell receptor deduced from cDNA sequences. *Nature*, **1984**, 309, 757-62	50.4	608
85	Young dentate granule cells mediate pattern separation, whereas old granule cells facilitate pattern completion. *Cell*, **2012**, 149, 188-201	56.2	579
84	Creating a false memory in the hippocampus. *Science*, **2013**, 341, 387-91	33.3	576
83	Impaired hippocampal representation of space in CA1-specific NMDAR1 knockout mice. *Cell*, **1996**, 87, 1339-49	56.2	507
82	Developmental regulation of T-cell receptor gene expression. *Nature*, **1985**, 314, 103-7	50.4	484
81	A third rearranged and expressed gene in a clone of cytotoxic T lymphocytes. *Nature*, **1984**, 312, 36-40	50.4	465
80	Engrams and circuits crucial for systems consolidation of a memory. *Science*, **2017**, 356, 73-78	33.3	427
79	Cortex-restricted disruption of NMDAR1 impairs neuronal patterns in the barrel cortex. *Nature*, **2000**, 406, 726-31	50.4	415
78	Bcl-2 promotes regeneration of severed axons in mammalian CNS. *Nature*, **1997**, 385, 434-9	50.4	406
77	Preplay of future place cell sequences by hippocampal cellular assemblies. *Nature*, **2011**, 469, 397-401	50.4	391
76	Myelin basic protein-specific T helper 2 (Th2) cells cause experimental autoimmune encephalomyelitis in immunodeficient hosts rather than protect them from the disease. *Journal of Experimental Medicine*, **1997**, 186, 307-12	16.6	384
75	Different roles of alpha beta and gamma delta T cells in immunity against an intracellular bacterial pathogen. *Nature*, **1993**, 365, 53-6	50.4	374

74	Hippocampal CA3 NMDA receptors are crucial for memory acquisition of one-time experience. *Neuron*, **2003**, 38, 305-15	13.9	369
73	Intestinal intraepithelial lymphocytes are a distinct set of gamma delta T cells. *Nature*, **1988**, 336, 479-81	50.4	364
72	Transgenic inhibition of synaptic transmission reveals role of CA3 output in hippocampal learning. *Science*, **2008**, 319, 1260-4	33.3	351
71	Memory. Engram cells retain memory under retrograde amnesia. *Science*, **2015**, 348, 1007-13	33.3	346
70	Diversity of murine gamma genes and expression in fetal and adult T lymphocytes. *Nature*, **1986**, 322, 836-40	50.4	344
69	Cell-type-specific contacts to immunoglobulin enhancers in nuclei. *Nature*, **1985**, 313, 798-801	50.4	336
68	Cell type-specific genetic and optogenetic tools reveal hippocampal CA2 circuits. *Nature Neuroscience*, **2014**, 17, 269-79	25.5	296
67	Ventral CA1 neurons store social memory. *Science*, **2016**, 353, 1536-1541	33.3	287
66	Memory Engram Cells Have Come of Age. *Neuron*, **2015**, 87, 918-31	13.9	284
65	Bidirectional switch of the valence associated with a hippocampal contextual memory engram. *Nature*, **2014**, 513, 426-30	50.4	282
64	Memory retrieval by activating engram cells in mouse models of early Alzheimer's disease. *Nature*, **2016**, 531, 508-12	50.4	275
63	Conjunctive input processing drives feature selectivity in hippocampal CA1 neurons. *Nature Neuroscience*, **2015**, 18, 1133-42	25.5	262
62	Activation of a translocated human c-myc gene by an enhancer in the immunoglobulin heavy-chain locus. *Nature*, **1984**, 307, 334-40	50.4	254
61	Successful execution of working memory linked to synchronized high-frequency gamma oscillations. *Cell*, **2014**, 157, 845-57	56.2	228
60	Entorhinal cortex layer III input to the hippocampus is crucial for temporal association memory. *Science*, **2011**, 334, 1415-20	33.3	227
59	Altered cortical synaptic morphology and impaired memory consolidation in forebrain- specific dominant-negative PAK transgenic mice. *Neuron*, **2004**, 42, 773-87	13.9	227
58	Memory engram storage and retrieval. *Current Opinion in Neurobiology*, **2015**, 35, 101-9	7.6	218
57	Diversity of gamma delta T-cell receptors on murine intestinal intra-epithelial lymphocytes. *Nature*, **1989**, 339, 712-4	50.4	204

56	Unusual organization and diversity of T-cell receptor alpha-chain genes. *Nature*, **1985**, 316, 828-32	50.4	204
55	Island cells control temporal association memory. *Science*, **2014**, 343, 896-901	33.3	203
54	What is memory? The present state of the engram. *BMC Biology*, **2016**, 14, 40	7.3	197
53	Activating positive memory engrams suppresses depression-like behaviour. *Nature*, **2015**, 522, 335-9	50.4	195
52	Memory engrams: Recalling the past and imagining the future. *Science*, **2020**, 367,	33.3	193
51	Basolateral to Central Amygdala Neural Circuits for Appetitive Behaviors. *Neuron*, **2017**, 93, 1464-1479.e5	13.9	189
50	Hippocampal CA3 output is crucial for ripple-associated reactivation and consolidation of memory. *Neuron*, **2009**, 62, 781-7	13.9	182
49	Cell type-specific enhancer element associated with a mouse MHC gene, E beta. *Nature*, **1984**, 310, 594-7	50.4	176
48	Limited diversity of the rearranged T-cell gamma gene. *Nature*, **1985**, 313, 752-5	50.4	175
47	Antagonistic negative and positive neurons of the basolateral amygdala. *Nature Neuroscience*, **2016**, 19, 1636-1646	25.5	173
46	The role of engram cells in the systems consolidation of memory. *Nature Reviews Neuroscience*, **2018**, 19, 485-498	13.5	153
45	Immunobiology of murine T. cruzi infection: the predominance of parasite-nonspecific responses and the activation of TCRI T cells. *Immunological Reviews*, **1989**, 112, 183-207	11.3	147
44	Distinct Neural Circuits for the Formation and Retrieval of Episodic Memories. *Cell*, **2017**, 170, 1000-1012.e19	36.1	131
43	Contribution of alpha/beta and gamma/delta T lymphocytes to immunity against Mycobacterium bovis bacillus Calmette Guérin: studies with T cell receptor-deficient mutant mice. *European Journal of Immunology*, **1995**, 25, 838-46	6.1	123
42	Functional expression of a microinjected Ed alpha gene in C57BL/6 transgenic mice. *Nature*, **1985**, 316, 67-9	50.4	120
41	Locus coeruleus input to hippocampal CA3 drives single-trial learning of a novel context. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, E310-E316	11.5	99
40	TAP1-independent loading of class I molecules by exogenous viral proteins. *European Journal of Immunology*, **1995**, 25, 1739-43	6.1	91
39	Dopamine D3 receptor mutant and wild-type mice exhibit identical responses to putative D3 receptor-selective agonists and antagonists. *Synapse*, **1999**, 31, 210-5	2.4	90

38	Presentation of endogenous viral proteins in association with major histocompatibility complex class II: on the role of intracellular compartmentalization, invariant chain and the TAP transporter system. *European Journal of Immunology*, **1995**, 25, 3402-11	6.1	90
37	Self-tolerance to transgenic gamma delta T cells by intrathymic inactivation. *Nature*, **1990**, 344, 163-5	50.4	90
36	Distinct speed dependence of entorhinal island and ocean cells, including respective grid cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 9466-71	11.5	88
35	Entorhinal Cortical Ocean Cells Encode Specific Contexts and Drive Context-Specific Fear Memory. *Neuron*, **2015**, 87, 1317-1331	13.9	88
34	Direct excitation of parvalbumin-positive interneurons by M1 muscarinic acetylcholine receptors: roles in cellular excitability, inhibitory transmission and cognition. *Journal of Physiology*, **2014**, 592, 3463-94	3.9	88
33	Engram Cell Excitability State Determines the Efficacy of Memory Retrieval. *Neuron*, **2019**, 101, 274-284.e5	13.9	88
32	T gamma protein is expressed on murine fetal thymocytes as a disulphide-linked heterodimer. *Nature*, **1987**, 325, 720-3	50.4	81
31	Decreased Ethanol Sensitivity and Tolerance Development in Protein Kinase C Null Mutant Mice Is Dependent on Genetic Background. *Alcoholism: Clinical and Experimental Research*, **1999**, 23, 387-397	3.7	76
30	Genetic neuroscience of mammalian learning and memory. *Philosophical Transactions of the Royal Society B: Biological Sciences*, **2003**, 358, 787-95	5.8	75
29	Blockage of alpha beta T-cell development by TCR gamma delta transgenes. *Nature*, **1989**, 342, 931-4	50.4	72
28	Direct Medial Entorhinal Cortex Input to Hippocampal CA1 Is Crucial for Extended Quiet Awake Replay. *Neuron*, **2017**, 96, 217-227.e4	13.9	69
27	Silent memory engrams as the basis for retrograde amnesia. *Proceedings of the National Academy of Sciences of the United States of America*, **2017**, 114, E9972-E9979	11.5	58
26	Entorhinal-hippocampal neuronal circuits bridge temporally discontiguous events. *Learning and Memory*, **2015**, 22, 438-43	2.8	58
25	Differential roles of the dopamine 1-class receptors, D1R and D5R, in hippocampal dependent memory. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, 8245-50	11.5	53
24	Identification and optogenetic manipulation of memory engrams in the hippocampus. *Frontiers in Behavioral Neuroscience*, **2013**, 7, 226	3.5	51
23	Amygdala Reward Neurons Form and Store Fear Extinction Memory. *Neuron*, **2020**, 105, 1077-1093.e7	13.9	50
22	Recognition of MHC TL gene products by gamma delta T cells. *Immunological Reviews*, **1991**, 120, 89-115	11.3	47
21	Revised nomenclature of mouse H-2 genes. *Immunogenetics*, **1990**, 32, 147-9	3.2	45

20	Hippocampal neurons represent events as transferable units of experience. *Nature Neuroscience*, **2020**, 23, 651-663	25.5	41
19	Differential reactivity of residual CD8+ T lymphocytes in TAP1 and beta 2-microglobulin mutant mice. *European Journal of Immunology*, **1995**, 25, 174-8	6.1	34
18	Why do mature CNS neurons of mammals fail to re-establish connections following injury--functions of bcl-2. *Cell Death and Differentiation*, **1998**, 5, 816-22	12.7	31
17	Identification and Manipulation of Memory Engram Cells. *Cold Spring Harbor Symposia on Quantitative Biology*, **2014**, 79, 59-65	3.9	22
16	Dorsal Raphe Serotonergic Neurons Control Intertemporal Choice under Trade-off. *Current Biology*, **2017**, 27, 3111-3119.e3	6.3	21
15	Differentiation of forebrain and hippocampal dopamine 1-class receptors, D1R and D5R, in spatial learning and memory. *Hippocampus*, **2016**, 26, 76-86	3.5	18
14	Differential attentional control mechanisms by two distinct noradrenergic coeruleo-frontal cortical pathways. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 29080-29089	11.5	15
13	Brain-wide mapping of contextual fear memory engram ensembles supports the dispersed engram complex hypothesis		12
12	Crucial role for CA2 inputs in the sequential organization of CA1 time cells supporting memory. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	10
11	Rehebbilitating Memory. *Neuropsychopharmacology*, **2016**, 41, 370-1	8.7	8
10	Repertoire-determining role of peptide in the positive selection of CD8+ T cells. *Immunological Reviews*, **1993**, 135, 157-82	11.3	7
9	A novel diagnostic biomarker for human uterine leiomyosarcoma: PSMB9/□i. *Chinese Clinical Oncology*, **2017**, 6, 22	2.3	5
8	Molecular Pathology and Novel Clinical Therapy for Uterine Leiomyosarcoma. *Anticancer Research*, **2016**, 36, 4997-5007	2.3	5
7	Brain-wide mapping reveals that engrams for a single memory are distributed across multiple brain regions.. *Nature Communications*, **2022**, 13, 1799	17.4	5
6	Tagging activated neurons with light. *Nature Biotechnology*, **2017**, 35, 827-828	44.5	4
5	The ins and outs of hippocampal circuits. *Neuron*, **2008**, 57, 175-7	13.9	4
4	Somatic Generation of Immune Diversity (Nobel Lecture). *Angewandte Chemie International Edition in English*, **1988**, 27, 1028-1039		4
3	Potential biomarker for human uterine leiomyosarcoma. *Journal of Clinical Medicine Research*, **2014**, 6, 392-4	2.9	3

2	Amygdala Reward Neurons Form and Store Fear Extinction Memory		1
1	Reply to Lehr and Stüber: What's in a name? On the distinction between temporal coding and internally driven activity. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	0