Diane Mathis

List of Publications by Year
in descending order

136 papers	35,334 citations	5574 82 h-index	10445 139 g-index
143 all docs	143 docs citations	143 times ranked	36819 citing authors

#	Article	IF	Citations
1	Projection of an Immunological Self Shadow Within the Thymus by the Aire Protein. Science, 2002, 298, 1395-1401.	12.6	2,159
2	Lean, but not obese, fat is enriched for a unique population of regulatory T cells that affect metabolic parameters. Nature Medicine, 2009, 15, 930-939.	30.7	1,790
3	The Immunological Genome Project: networks of gene expression in immune cells. Nature Immunology, 2008, 9, 1091-1094.	14.5	1,576
4	Gut-Residing Segmented Filamentous Bacteria Drive Autoimmune Arthritis via T Helper 17 Cells. Immunity, 2010, 32, 815-827.	14.3	1,391
5	Gut Immune Maturation Depends on Colonization with a Host-Specific Microbiota. Cell, 2012, 149, 1578-1593.	28.9	1,050
6	FOXP3 Controls Regulatory T Cell Function through Cooperation with NFAT. Cell, 2006, 126, 375-387.	28.9	1,019
7	A Special Population of Regulatory T Cells Potentiates Muscle Repair. Cell, 2013, 155, 1282-1295.	28.9	954
8	PPAR-Î³ is a major driver of the accumulation and phenotype of adipose tissue Treg cells. Nature, 2012, 486, 549-553.	27.8	945
9	Mice lacking MHC class II molecules. Cell, 1991, 66, 1051-1066.	28.9	876
10	Organ-Specific Disease Provoked by Systemic Autoimmunity. Cell, 1996, 87, 811-822.	28.9	828
11	Mast Cells: A Cellular Link Between Autoantibodies and Inflammatory Arthritis. Science, 2002, 297, 1689-1692.	12.6	722
12	Ablation of PRDM16 and Beige Adipose Causes Metabolic Dysfunction and a Subcutaneous to Visceral Fat Switch. Cell, 2014, 156, 304-316.	28.9	719
13	Individual intestinal symbionts induce a distinct population of RORÎ³ ⁺ regulatory T cells. Science, 2015, 349, 993-997.	12.6	707
14	Treg Cells Expressing the Coinhibitory Molecule TIGIT Selectively Inhibit Proinflammatory Th1 and Th17 Cell Responses. Immunity, 2014, 40, 569-581.	14.3	702
15	The AKTâ€"mTOR axis regulates de novo differentiation of CD4+Foxp3+ cells. Journal of Experimental Medicine, 2008, 205, 565-574.	8.5	683
16	From Systemic T Cell Self-Reactivity to Organ-Specific Autoimmune Disease via Immunoglobulins. Immunity, 1999, 10, 451-461.	14.3	646
17	Arthritis Critically Dependent on Innate Immune System Players. Immunity, 2002, 16, 157-168.	14.3	631
18	Stability of the Regulatory T Cell Lineage in Vivo. Science, 2010, 329, 1667-1671.	12.6	611

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19	Arthritis Provoked by Linked T and B Cell Recognition of a Glycolytic Enzyme. Science, 1999, 286, 1732-1735.	12.6	575
20	Microbial bile acid metabolites modulate gut RORÎ³+Âregulatory T cell homeostasis. Nature, 2020, 577, 410-415.	27.8	568
21	Foxp3 Transcription-Factor-Dependent and -Independent Regulation of the Regulatory T Cell Transcriptional Signature. Immunity, 2007, 27, 786-800.	14.3	563
22	The Cellular Mechanism of Aire Control of T Cell Tolerance. Immunity, 2005, 23, 227-239.	14.3	559
23	Mining the Human Gut Microbiota for Immunomodulatory Organisms. Cell, 2017, 168, 928-943.e11.	28.9	554
24	Aire. Annual Review of Immunology, 2009, 27, 287-312.	21.8	547
25	Foxp3+ regulatory T cells: differentiation, specification, subphenotypes. Nature Immunology, 2009, 10, 689-695.	14.5	456
26	Tissue Tregs. Annual Review of Immunology, 2016, 34, 609-633.	21.8	442
27	Immunometabolism: an emerging frontier. Nature Reviews Immunology, 2011, 11, 81-83.	22.7	410
28	Poor Repair of Skeletal Muscle in Aging Mice Reflects a Defect in Local, Interleukin-33-Dependent Accumulation of Regulatory T Cells. Immunity, 2016, 44, 355-367.	14.3	383
29	Naturally transmitted segmented filamentous bacteria segregate with diabetes protection in nonobese diabetic mice. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 11548-11553.	7.1	373
30	Regulatory T cells generated early in life play a distinct role in maintaining self-tolerance. Science, 2015, 348, 589-594.	12.6	373
31	Autoimmunity provoked by infection: how good is the case for T cell epitope mimicry?. Nature Immunology, 2001, 2, 797-801.	14.5	368
32	Immunological Goings-on in Visceral Adipose Tissue. Cell Metabolism, 2013, 17, 851-859.	16.2	344
33	Identifying species of symbiont bacteria from the human gut that, alone, can induce intestinal Th17 cells in mice. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E8141-E8150.	7.1	331
34	How antibodies to a ubiquitous cytoplasmic enzyme may provoke joint-specific autoimmune disease. Nature Immunology, 2002, 3, 360-365.	14.5	322
35	Single-cell gene expression reveals a landscape of regulatory T cell phenotypes shaped by the TCR. Nature Immunology, 2018, 19, 291-301.	14.5	312
36	Regulatory T cells in nonlymphoid tissues. Nature Immunology, 2013, 14, 1007-1013.	14.5	308

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37	Critical Roles for Interleukin 1 and Tumor Necrosis Factor Î± in Antibody-induced Arthritis. Journal of Experimental Medicine, 2002, 196, 77-85.	8.5	307
38	Antigen- and Cytokine-Driven Accumulation of Regulatory T Cells in Visceral Adipose Tissue of Lean Mice. Cell Metabolism, 2015, 21, 543-557.	16.2	304
39	Parsing the Interferon Transcriptional Network and Its Disease Associations. Cell, 2016, 164, 564-578.	28.9	250
40	A multiply redundant genetic switch 'locks in' the transcriptional signature of regulatory T cells. Nature Immunology, 2012, 13, 972-980.	14.5	249
41	Intersection of population variation and autoimmunity genetics in human T cell activation. Science, 2014, 345, 1254665.	12.6	218
42	How Punctual Ablation of Regulatory T Cells Unleashes an Autoimmune Lesion within the Pancreatic Islets. Immunity, 2009, 31, 654-664.	14.3	212
43	Modifier loci condition autoimmunity provoked by Aire deficiency. Journal of Experimental Medicine, 2005, 202, 805-815.	8.5	206
44	Genomic definition of multiple ex vivo regulatory T cell subphenotypes. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 5919-5924.	7.1	204
45	Aire unleashes stalled RNA polymerase to induce ectopic gene expression in thymic epithelial cells. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 535-540.	7.1	202
46	Aire controls gene expression in the thymic epithelium with ordered stochasticity. Nature Immunology, 2015, 16, 942-949.	14.5	195
47	Genetic Inversion in Mast Cell-Deficient Wsh Mice Interrupts Corin and Manifests as Hematopoietic and Cardiac Aberrancy. American Journal of Pathology, 2008, 173, 1693-1701.	3.8	191
48	Back to Central Tolerance. Immunity, 2004, 20, 509-516.	14.3	188
49	An Intestinal Organ Culture System Uncovers a Role for the Nervous System in Microbe-Immune Crosstalk. Cell, 2017, 168, 1135-1148.e12.	28.9	182
50	A decade of AIRE. Nature Reviews Immunology, 2007, 7, 645-650.	22.7	179
51	Particularities of the vasculature can promote the organ specificity of autoimmune attack. Nature Immunology, 2006, 7, 284-292.	14.5	171
52	Adaptation of TCR Repertoires to Self-Peptides in Regulatory and Nonregulatory CD4+ T Cells. Journal of Immunology, 2007, 178, 7032-7041.	0.8	171
53	Distinct immunocyte-promoting and adipocyte-generating stromal components coordinate adipose tissue immune and metabolic tenors. Science Immunology, 2019, 4, .	11.9	169
54	Mast cells contribute to initiation of autoantibody-mediated arthritis via IL-1. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 2325-2330.	7.1	168

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55	TCR Transgenic Mice Reveal Stepwise, Multi-site Acquisition of the Distinctive Fat-Treg Phenotype. Cell, 2018, 174, 285-299.e12.	28.9	165
56	Defective Central Tolerance Induction in NOD Mice: Genomics and Genetics. Immunity, 2005, 22, 385-396.	14.3	160
57	Appearance and disappearance of the mRNA signature characteristic of T _{reg} cells in visceral adipose tissue: Age, diet, and PPARÎ³ effects. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 482-487.	7.1	156
58	Endoscopic photoconversion reveals unexpectedly broad leukocyte trafficking to and from the gut. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 6696-6701.	7.1	154
59	The K/BxN Arthritis Model. Current Protocols in Immunology, 2008, 81, Unit 15.22.	3.6	153
60	Neonatal tolerance revisited: a perinatal window for Aire control of autoimmunity. Journal of Experimental Medicine, 2009, 206, 1245-1252.	8.5	148
61	<i>Flicr</i> , a long noncoding RNA, modulates Foxp3 expression and autoimmunity. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E3472-E3480.	7.1	141
62	Sex-specific adipose tissue imprinting of regulatory T cells. Nature, 2020, 579, 581-585.	27.8	141
63	The immune system's involvement in obesity-driven type 2 diabetes. Seminars in Immunology, 2012, 24, 436-442.	5.6	137
64	Genetic Influences on the End-Stage Effector Phase of Arthritis. Journal of Experimental Medicine, 2001, 194, 321-330.	8.5	134
65	The transcriptional regulator Aire binds to and activates super-enhancers. Nature Immunology, 2017, 18, 263-273.	14.5	130
66	pH-Gated Succinate Secretion Regulates Muscle Remodeling in Response to Exercise. Cell, 2020, 183, 62-75.e17.	28.9	129
67	Noninvasive mapping of pancreatic inflammation in recent-onset type-1 diabetes patients. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 2139-2144.	7.1	123
68	Molecular diversification of regulatory T cells in nonlymphoid tissues. Science Immunology, 2018, 3, .	11.9	123
69	Regulatory T cells control NK cells in an insulitic lesion by depriving them of IL-2. Journal of Experimental Medicine, 2013, 210, 1153-1165.	8.5	120
70	Different molecular complexes that mediate transcriptional induction and repression by FoxP3. Nature Immunology, 2017, 18, 1238-1248.	14.5	117
71	Î³Î´ T cells and adipocyte IL-17RC control fat innervation and thermogenesis. Nature, 2020, 578, 610-614.	27.8	117
72	Gut CD4+ T cell phenotypes are a continuum molded by microbes, not by TH archetypes. Nature Immunology, 2021, 22, 216-228.	14.5	116

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73	T _{reg} cells limit IFN-Î³ production to control macrophage accrual and phenotype during skeletal muscle regeneration. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E2585-E2593.	7.1	114
74	Interindividual variation in human T regulatory cells. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, E1111-20.	7.1	112
75	An Immunologic Mode of Multigenerational Transmission Governs a Gut Treg Setpoint. Cell, 2020, 181, 1276-1290.e13.	28.9	110
76	Tissue regulatory T cells: regulatory chameleons. Nature Reviews Immunology, 2021, 21, 597-611.	22.7	109
77	Tissular Tregs: A unique population of adipose-tissue-resident Foxp3+CD4+ T cells that impacts organismal metabolism. Seminars in Immunology, 2011, 23, 431-437.	5.6	108
78	Identification and validation of a tumor-infiltrating Treg transcriptional signature conserved across species and tumor types. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E10672-E10681.	7.1	108
79	Profound Treg perturbations correlate with COVID-19 severity. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	104
80	Nuclear receptor Nr4a1 modulates both regulatory T-cell (Treg) differentiation and clonal deletion. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 3891-3896.	7.1	101
81	The Role of Antibodies in Mouse Models of Rheumatoid Arthritis, and Relevance to Human Disease. Advances in Immunology, 2004, 82, 217-248.	2.2	100
82	Neutrophils in a mouse model of autoantibodyâ€mediated arthritis: Critical producers of Fc receptor Î³, the receptor for C5a, and lymphocyte functionâˆ'associated antigen 1. Arthritis and Rheumatism, 2010, 62, 753-764.	6.7	95
83	Population dynamics of islet-infiltrating cells in autoimmune diabetes. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 1511-1516.	7.1	89
84	Singular role for T-BET ⁺ CXCR3 ⁺ regulatory T cells in protection from autoimmune diabetes. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 14103-14108.	7.1	89
85	Deficiency of CXCR2, but not other chemokine receptors, attenuates autoantibodyâ€mediated arthritis in a murine model. Arthritis and Rheumatism, 2010, 62, 1921-1932.	6.7	85
86	The K/BxN Mouse Model of Inflammatory Arthritis. Methods in Molecular Medicine, 2007, 136, 269-282.	0.8	85
87	Inflammatory arthritis can be reined in by CpG-induced DCâ€"NK cell cross talk. Journal of Experimental Medicine, 2007, 204, 1911-1922.	8.5	84
88	The influence of the microbiota on typeâ€1 diabetes: on the threshold of a leap forward in our understanding. Immunological Reviews, 2012, 245, 239-249.	6.0	81
89	Protective major histocompatibility complex allele prevents type 1 diabetes by shaping the intestinal microbiota early in ontogeny. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 9671-9676.	7.1	75
90	Convergent and divergent effects of costimulatory molecules in conventional and regulatory CD4 ⁺ T cells. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 1023-1028.	7.1	72

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91	Global relevance of Aire binding to hypomethylated lysine-4 of histone-3. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 13016-13021.	7.1	69
92	Epigenetic modulation of type-1 diabetes via a dual effect on pancreatic macrophages and Î² cells. ELife, 2014, 3, e04631.	6.0	69
93	Danger-free autoimmune disease in Aire-deficient mice. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 18193-18198.	7.1	68
94	Immunological contributions to adipose tissue homeostasis. Seminars in Immunology, 2015, 27, 315-321.	5.6	68
95	Imaging the emergence and natural progression of spontaneous autoimmune diabetes. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E7776-E7785.	7.1	64
96	Interleukin-6 produced by enteric neurons regulates the number and phenotype of microbe-responsive regulatory TÂcells in the gut. Immunity, 2021, 54, 499-513.e5.	14.3	63
97	Brd4 bridges the transcriptional regulators, Aire and P-TEFb, to promote elongation of peripheral-tissue antigen transcripts in thymic stromal cells. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E4448-57.	7.1	62
98	Network pharmacology of JAK inhibitors. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 9852-9857.	7.1	59
99	PAHSAs attenuate immune responses and promote Î² cell survival in autoimmune diabetic mice. Journal of Clinical Investigation, 2019, 129, 3717-3731.	8.2	55
100	Aire Inhibits the Generation of a Perinatal Population of Interleukin-17A-Producing Î³Î´ T Cells to Promote Immunologic Tolerance. Immunity, 2016, 45, 999-1012.	14.3	54
101	Microbiota and Autoimmune Disease: The Hosted Self. Cell Host and Microbe, 2011, 10, 297-301.	11.0	53
102	ImmVar project: Insights and design considerations for future studies of â€œhealthyâ€•immune variation. Seminars in Immunology, 2015, 27, 51-57.	5.6	53
103	Imbalanced signal transduction in regulatory T cells expressing the transcription factor FoxP3. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 14942-14947.	7.1	52
104	Single-cell mass cytometry of TCR signaling: Amplification of small initial differences results in low ERK activation in NOD mice. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 16466-16471.	7.1	50
105	Developmental and cellular age direct conversion of CD4+ T cells into RORÎ³+ or Helios+ colon Treg cells. Journal of Experimental Medicine, 2020, 217, .	8.5	50
106	Visceral adipose tissue Tregs and the cells that nurture them. Immunological Reviews, 2020, 295, 114-125.	6.0	49
107	Interferon-Î±-producing plasmacytoid dendritic cells drive the loss of adipose tissue regulatory TÂcells during obesity. Cell Metabolism, 2021, 33, 1610-1623.e5.	16.2	48
108	Variation and Genetic Control of Gene Expression in Primary Immunocytes across Inbred Mouse Strains. Journal of Immunology, 2014, 193, 4485-4496.	0.8	44

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109	T cell receptor specificity drives accumulation of a reparative population of regulatory T cells within acutely injured skeletal muscle. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 26727-26733.	7.1	43
110	Denervation protects limbs from inflammatory arthritis via an impact on the microvasculature. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 11419-11424.	7.1	40
111	Single-cell analysis of FOXP3 deficiencies in humans and mice unmasks intrinsic and extrinsic CD4+ T cell perturbations. Nature Immunology, 2021, 22, 607-619.	14.5	35
112	Fatal autoimmunity in mice reconstituted with human hematopoietic stem cells encoding defective FOXP3. Blood, 2015, 125, 3886-3895.	1.4	33
113	Neuronal, stromal, and T-regulatory cell crosstalk in murine skeletal muscle. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 5402-5408.	7.1	32
114	Variation in IL-1Â gene expression is a major determinant of genetic differences in arthritis aggressivity in mice. Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 12489-12494.	7.1	27
115	T cell anergy in perinatal mice is promoted by T reg cells and prevented by IL-33. Journal of Experimental Medicine, 2019, 216, 1328-1344.	8.5	27
116	Unstable FoxP3 ⁺ T regulatory cells in NZW mice. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1345-1350.	7.1	26
117	Type 1 Diabetes in NOD Mice Unaffected by Mast Cell Deficiency. Diabetes, 2014, 63, 3827-3834.	0.6	25
118	Levees of immunological tolerance. Nature Immunology, 2010, 11, 3-6.	14.5	23
119	FoxP3 scanning mutagenesis reveals functional variegation and mild mutations with atypical autoimmune phenotypes. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E253-E262.	7.1	22
120	Circulating C3 is necessary and sufficient for induction of autoantibodyâ€mediated arthritis in a mouse model. Arthritis and Rheumatism, 2007, 56, 2968-2974.	6.7	21
121	PPARÎ³ marks splenic precursors of multiple nonlymphoid-tissue Treg compartments. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	21
122	Discovery of surrogate agonists for visceral fat Treg cells that modulate metabolic indices in vivo. ELife, 2020, 9, .	6.0	21
123	Genomeâ€wide and speciesâ€wide dissection of the genetics of arthritis severity in heterogeneous stock mice. Arthritis and Rheumatism, 2011, 63, 2630-2640.	6.7	20
124	Rapid, high efficiency isolation of pancreatic ÃŸ-cells. Scientific Reports, 2015, 5, 13681.	3.3	17
125	IL-17Aâ€“producing Î³ÎT cells promote muscle regeneration in a microbiota-dependent manner. Journal of Experimental Medicine, 2022, 219, .	8.5	17
126	The neuropeptide neuromedin U promotes autoantibody-mediated arthritis. Arthritis Research and Therapy, 2012, 14, R29.	3.5	15

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127	Yes, it does. Nature Reviews Immunology, 2007, 7, 1-1.	22.7	12
128	Aire regulates chromatin looping by evicting CTCF from domain boundaries and favoring accumulation of cohesin on superenhancers. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	12
129	FoxP3 associates with enhancer-promoter loops to regulate T-specific gene expression.. Science Immunology, 2022, 7, eabj9836.	11.9	12
130	Organismal immunometabolism: advances in both directions. Nature Reviews Immunology, 2019, 19, 83-84.	22.7	7
131	IL-33, Imprimatur of Adipocyte Thermogenesis. Cell, 2016, 166, 794-795.	28.9	6
132	A gut feeling about arthritis. ELife, 2013, 2, e01608.	6.0	5
133	B-cell Signaling: Protein Kinase CÎ´ Puts the Brakes on. Current Biology, 2002, 12, R554-R556.	3.9	3
134	Methods of Isolation and Analysis of TREG Immune Infiltrates from Injured and Dystrophic Skeletal Muscle. Methods in Molecular Biology, 2019, 1899, 229-237.	0.9	3
135	Promiscuity Promotes Tolerance. Journal of Immunology, 2016, 196, 2913-2914.	0.8	1
136	Lymphocyte tolerance: central is central. Harvey Lectures, 2003, 99, 95-110.	0.2	0