Diane Mathis

List of Publications by Citations

137 papers	27,488 citations	73 h-index	143 g-index
143 ext. papers	32,245 ext. citations	22.5 avg, IF	7.07 L-index

#	Paper	IF	Citations
137	Projection of an immunological self shadow within the thymus by the aire protein. *Science*, **2002**, 298, 1395-401	33.3	1841
136	Lean, but not obese, fat is enriched for a unique population of regulatory T cells that affect metabolic parameters. *Nature Medicine*, **2009**, 15, 930-9	50.5	1479
135	Gut-residing segmented filamentous bacteria drive autoimmune arthritis via T helper 17 cells. *Immunity*, **2010**, 32, 815-27	32.3	1168
134	The Immunological Genome Project: networks of gene expression in immune cells. *Nature Immunology*, **2008**, 9, 1091-4	19.1	1098
133	FOXP3 controls regulatory T cell function through cooperation with NFAT. *Cell*, **2006**, 126, 375-87	56.2	878
132	Mice lacking MHC class II molecules. *Cell*, **1991**, 66, 1051-66	56.2	798
131	Gut immune maturation depends on colonization with a host-specific microbiota. *Cell*, **2012**, 149, 1578-93	56.2	778
130	PPAR- is a major driver of the accumulation and phenotype of adipose tissue Treg cells. *Nature*, **2012**, 486, 549-53	50.4	762
129	Organ-specific disease provoked by systemic autoimmunity. *Cell*, **1996**, 87, 811-22	56.2	731
128	A special population of regulatory T cells potentiates muscle repair. *Cell*, **2013**, 155, 1282-95	56.2	693
127	Mast cells: a cellular link between autoantibodies and inflammatory arthritis. *Science*, **2002**, 297, 1689-92	33.3	642
126	The AKT-mTOR axis regulates de novo differentiation of CD4+Foxp3+ cells. *Journal of Experimental Medicine*, **2008**, 205, 565-74	16.6	598
125	From systemic T cell self-reactivity to organ-specific autoimmune disease via immunoglobulins. *Immunity*, **1999**, 10, 451-61	32.3	572
124	Ablation of PRDM16 and beige adipose causes metabolic dysfunction and a subcutaneous to visceral fat switch. *Cell*, **2014**, 156, 304-16	56.2	569
123	Arthritis critically dependent on innate immune system players. *Immunity*, **2002**, 16, 157-68	32.3	564
122	Stability of the regulatory T cell lineage in vivo. *Science*, **2010**, 329, 1667-71	33.3	514
121	Arthritis provoked by linked T and B cell recognition of a glycolytic enzyme. *Science*, **1999**, 286, 1732-5	33.3	503

120	The cellular mechanism of Aire control of T cell tolerance. *Immunity*, **2005**, 23, 227-39	32.3	494
119	MUCOSAL IMMUNOLOGY. Individual intestinal symbionts induce a distinct population of RORγ+ regulatory T cells. *Science*, **2015**, 349, 993-7	33.3	487
118	Aire. *Annual Review of Immunology*, **2009**, 27, 287-312	34.7	484
117	Foxp3 transcription-factor-dependent and -independent regulation of the regulatory T cell transcriptional signature. *Immunity*, **2007**, 27, 786-800	32.3	474
116	Treg cells expressing the coinhibitory molecule TIGIT selectively inhibit proinflammatory Th1 and Th17 cell responses. *Immunity*, **2014**, 40, 569-81	32.3	456
115	Foxp3+ regulatory T cells: differentiation, specification, subphenotypes. *Nature Immunology*, **2009**, 10, 689-95	19.1	403
114	Mining the Human Gut Microbiota for Immunomodulatory Organisms. *Cell*, **2017**, 168, 928-943.e11	56.2	356
113	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, 11548-53	11.5	329
112	Autoimmunity provoked by infection: how good is the case for T cell epitope mimicry?. *Nature Immunology*, **2001**, 2, 797-801	19.1	319
111	Immunometabolism: an emerging frontier. *Nature Reviews Immunology*, **2011**, 11, 81	36.5	316
110	Tissue Tregs. *Annual Review of Immunology*, **2016**, 34, 609-33	34.7	305
109	Immunological goings-on in visceral adipose tissue. *Cell Metabolism*, **2013**, 17, 851-859	24.6	292
108	Critical roles for interleukin 1 and tumor necrosis factor alpha in antibody-induced arthritis. *Journal of Experimental Medicine*, **2002**, 196, 77-85	16.6	278
107	Microbial bile acid metabolites modulate gut RORγ+ regulatory T cell homeostasis. *Nature*, **2020**, 577, 410-415	50.4	278
106	Immune tolerance. Regulatory T cells generated early in life play a distinct role in maintaining self-tolerance. *Science*, **2015**, 348, 589-94	33.3	272
105	How antibodies to a ubiquitous cytoplasmic enzyme may provoke joint-specific autoimmune disease. *Nature Immunology*, **2002**, 3, 360-5	19.1	272
104	Poor Repair of Skeletal Muscle in Aging Mice Reflects a Defect in Local, Interleukin-33-Dependent Accumulation of Regulatory T Cells. *Immunity*, **2016**, 44, 355-67	32.3	256
103	Regulatory T cells in nonlymphoid tissues. *Nature Immunology*, **2013**, 14, 1007-13	19.1	247

102	Antigen- and cytokine-driven accumulation of regulatory T cells in visceral adipose tissue of lean mice. *Cell Metabolism*, **2015**, 21, 543-57	24.6	237
101	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	11.5	230
100	A multiply redundant genetic switch locks in the transcriptional signature of regulatory T cells. *Nature Immunology*, **2012**, 13, 972-80	19.1	205
99	Single-cell gene expression reveals a landscape of regulatory T cell phenotypes shaped by the TCR. *Nature Immunology*, **2018**, 19, 291-301	19.1	203
98	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, 5919-24	11.5	180
97	Modifier loci condition autoimmunity provoked by Aire deficiency. *Journal of Experimental Medicine* , **2005**, 202, 805-15	16.6	177
96	How punctual ablation of regulatory T cells unleashes an autoimmune lesion within the pancreatic islets. *Immunity*, **2009**, 31, 654-64	32.3	176
95	Intersection of population variation and autoimmunity genetics in human T cell activation. *Science*, **2014**, 345, 1254665	33.3	175
94	Genetic inversion in mast cell-deficient (Wsh) mice interrupts corin and manifests as hematopoietic and cardiac aberrancy. *American Journal of Pathology*, **2008**, 173, 1693-701	5.8	171
93	Back to central tolerance. *Immunity*, **2004**, 20, 509-16	32.3	169
92	A decade of AIRE. *Nature Reviews Immunology*, **2007**, 7, 645-50	36.5	155
91	Particularities of the vasculature can promote the organ specificity of autoimmune attack. *Nature Immunology*, **2006**, 7, 284-92	19.1	152
90	Parsing the Interferon Transcriptional Network and Its Disease Associations. *Cell*, **2016**, 164, 564-78	56.2	151
89	Adaptation of TCR repertoires to self-peptides in regulatory and nonregulatory CD4+ T cells. *Journal of Immunology*, **2007**, 178, 7032-41	5.3	151
88	Defective central tolerance induction in NOD mice: genomics and genetics. *Immunity*, **2005**, 22, 385-96	32.3	150
87	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, 2325-30	11.5	144
86	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, 535-40	11.5	139
85	An Intestinal Organ Culture System Uncovers a Role for the Nervous System in Microbe-Immune Crosstalk. *Cell*, **2017**, 168, 1135-1148.e12	56.2	127

84	Genetic influences on the end-stage effector phase of arthritis. *Journal of Experimental Medicine*, **2001**, 194, 321-30	16.6	127
83	Neonatal tolerance revisited: a perinatal window for Aire control of autoimmunity. *Journal of Experimental Medicine*, **2009**, 206, 1245-52	16.6	125
82	The K/BxN arthritis model. *Current Protocols in Immunology*, **2008**, Chapter 15, Unit 15.22	4	124
81	Aire controls gene expression in the thymic epithelium with ordered stochasticity. *Nature Immunology*, **2015**, 16, 942-9	19.1	121
80	The immune system's involvement in obesity-driven type 2 diabetes. *Seminars in Immunology*, **2012**, 24, 436-42	10.7	116
79	Appearance and disappearance of the mRNA signature characteristic of Treg cells in visceral adipose tissue: age, diet, and PPAR effects. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 482-7	11.5	115
78	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, 6696-701	11.5	106
77	Regulatory T cells control NK cells in an insulitic lesion by depriving them of IL-2. *Journal of Experimental Medicine*, **2013**, 210, 1153-65	16.6	105
76	Tissular T(regs): a unique population of adipose-tissue-resident Foxp3+CD4+ T cells that impacts organismal metabolism. *Seminars in Immunology*, **2011**, 23, 431-7	10.7	99
75	Distinct immunocyte-promoting and adipocyte-generating stromal components coordinate adipose tissue immune and metabolic tenors. *Science Immunology*, **2019**, 4,	28	98
74	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, 2139-44	11.5	98
73	TCR Transgenic Mice Reveal Stepwise, Multi-site Acquisition of the Distinctive Fat-Treg Phenotype. *Cell*, **2018**, 174, 285-299.e12	56.2	96
72	The role of antibodies in mouse models of rheumatoid arthritis, and relevance to human disease. *Advances in Immunology*, **2004**, 82, 217-48	5.6	91
71	, 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	11.5	89
70	Neutrophils in a mouse model of autoantibody-mediated arthritis: critical producers of Fc receptor gamma, the receptor for C5a, and lymphocyte function-associated antigen 1. *Arthritis and Rheumatism*, **2010**, 62, 753-64		81
69	Interindividual variation in human T regulatory cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2014**, 111, E1111-20	11.5	80
68	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, 3891-6	11.5	80
67	Molecular diversification of regulatory T cells in nonlymphoid tissues. *Science Immunology*, **2018**, 3,	28	78

66	Inflammatory arthritis can be reined in by CpG-induced DC-NK cell cross talk. *Journal of Experimental Medicine*, **2007**, 204, 1911-22	16.6	76
65	Different molecular complexes that mediate transcriptional induction and repression by FoxP3. *Nature Immunology*, **2017**, 18, 1238-1248	19.1	74
64	Sex-specific adipose tissue imprinting of regulatory T cells. *Nature*, **2020**, 579, 581-585	50.4	72
63	The K/BxN mouse model of inflammatory arthritis: theory and practice. *Methods in Molecular Medicine*, **2007**, 136, 269-82		72
62	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	11.5	72
61	T cells limit IFN-□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	11.5	69
60	The influence of the microbiota on type-1 diabetes: on the threshold of a leap forward in our understanding. *Immunological Reviews*, **2012**, 245, 239-49	11.3	67
59	Deficiency of CXCR2, but not other chemokine receptors, attenuates autoantibody-mediated arthritis in a murine model. *Arthritis and Rheumatism*, **2010**, 62, 1921-32		67
58	The transcriptional regulator Aire binds to and activates super-enhancers. *Nature Immunology*, **2017**, 18, 263-273	19.1	64
57	Population dynamics of islet-infiltrating cells in autoimmune diabetes. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 1511-6	11.5	61
56	Immunological contributions to adipose tissue homeostasis. *Seminars in Immunology*, **2015**, 27, 315-21	10.7	61
55	Danger-free autoimmune disease in Aire-deficient mice. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 18193-8	11.5	61
54	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, 1023-8	11.5	56
53	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	11.5	54
52	Epigenetic modulation of type-1 diabetes via a dual effect on pancreatic macrophages and □cells. *ELife*, **2014**, 3, e04631	8.9	53
51	□T cells and adipocyte IL-17RC control fat innervation and thermogenesis. *Nature*, **2020**, 578, 610-614	50.4	49
50	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	11.5	48
49	An Immunologic Mode of Multigenerational Transmission Governs a Gut Treg Setpoint. *Cell*, **2020**, 181, 1276-1290.e13	56.2	46

48	Microbiota and autoimmune disease: the hosted self. *Cell Host and Microbe*, **2011**, 10, 297-301	23.4	45
47	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, 13016-21	11.5	45
46	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, 16466-71	11.5	44
45	Network pharmacology of JAK inhibitors. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 9852-7	11.5	44
44	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, 14942-7	11.5	42
43	ImmVar project: Insights and design considerations for future studies of "healthy" immune variation. *Seminars in Immunology*, **2015**, 27, 51-7	10.7	39
42	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, 11419-24	11.5	38
41	pH-Gated Succinate Secretion Regulates Muscle Remodeling in Response to Exercise. *Cell*, **2020**, 183, 62-75.e17	56.2	37
40	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	11.5	34
39	Gut CD4 T cell phenotypes are a continuum molded by microbes, not by T archetypes. *Nature Immunology*, **2021**, 22, 216-228	19.1	34
38	Aire Inhibits the Generation of a Perinatal Population of Interleukin-17A-Producing □T Cells to Promote Immunologic Tolerance. *Immunity*, **2016**, 45, 999-1012	32.3	33
37	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	11.5	31
36	Variation and genetic control of gene expression in primary immunocytes across inbred mouse strains. *Journal of Immunology*, **2014**, 193, 4485-96	5.3	28
35	PAHSAs attenuate immune responses and promote □cell survival in autoimmune diabetic mice. *Journal of Clinical Investigation*, **2019**, 129, 3717-3731	15.9	28
34	Developmental and cellular age direct conversion of CD4+ T cells into RORⅢ or Helios+ colon Treg cells. *Journal of Experimental Medicine*, **2020**, 217,	16.6	28
33	Fatal autoimmunity in mice reconstituted with human hematopoietic stem cells encoding defective FOXP3. *Blood*, **2015**, 125, 3886-95	2.2	26
32	Visceral adipose tissue Tregs and the cells that nurture them. *Immunological Reviews*, **2020**, 295, 114-125	11.3	25
31	Variation in IL-1beta 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, 12489-94	11.5	25

30	Profound Treg perturbations correlate with COVID-19 severity. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	24
29	Type 1 diabetes in NOD mice unaffected by mast cell deficiency. *Diabetes*, **2014**, 63, 3827-34	0.9	22
28	Levees of immunological tolerance. *Nature Immunology*, **2010**, 11, 3-6	19.1	21
27	Unstable FoxP3+ T regulatory cells in NZW mice. *Proceedings of the National Academy of Sciences of the United States of America*, **2016**, 113, 1345-50	11.5	20
26	Circulating C3 is necessary and sufficient for induction of autoantibody-mediated arthritis in a mouse model. *Arthritis and Rheumatism*, **2007**, 56, 2968-74		19
25	Interleukin-6 produced by enteric neurons regulates the number and phenotype of microbe-responsive regulatory T cells in the gut. *Immunity*, **2021**, 54, 499-513.e5	32.3	19
24	Genome-wide and species-wide dissection of the genetics of arthritis severity in heterogeneous stock mice. *Arthritis and Rheumatism*, **2011**, 63, 2630-40		18
23	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**,	11.5	18
22	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	16.6	17
21	Tissue regulatory T cells: regulatory chameleons. *Nature Reviews Immunology*, **2021**, 21, 597-611	36.5	16
20	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	11.5	14
19	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	11.5	14
18	Rapid, high efficiency isolation of pancreatic cells. *Scientific Reports*, **2015**, 5, 13681	4.9	12
17	The neuropeptide neuromedin U promotes autoantibody-mediated arthritis. *Arthritis Research and Therapy*, **2012**, 14, R29	5.7	11
16	Profound Treg perturbations correlate with COVID-19 severity **2020**,		11
15	Interferon-producing plasmacytoid dendritic cells drive the loss of adipose tissue regulatory T cells during obesity. *Cell Metabolism*, **2021**, 33, 1610-1623.e5	24.6	9
14	Discovery of surrogate agonists for visceral fat Treg cells that modulate metabolic indices in vivo. *ELife*, **2020**, 9,	8.9	7
13	PPAR marks splenic precursors of multiple nonlymphoid-tissue Treg compartments. *Proceedings of the National Academy of Sciences of the United States of America*, **2021**, 118,	11.5	6

List of Publications

12	Single-cell analysis of FOXP3 deficiencies in humans and mice unmasks intrinsic and extrinsic CD4 T cell perturbations. *Nature Immunology*, **2021**, 22, 607-619	19.1	6
11	Yes, it does. *Nature Reviews Immunology*, **2007**, 7, 1-1	36.5	5
10	Organismal immunometabolism: advances in both directions. *Nature Reviews Immunology*, **2019**, 19, 83-84	36.5	4
9	A gut feeling about arthritis. *ELife*, **2013**, 2, e01608	8.9	4
8	IL-33, Imprimatur of Adipocyte Thermogenesis. *Cell*, **2016**, 166, 794-795	56.2	4
7	B-cell signaling: protein kinase Cdelta puts the brakes on. *Current Biology*, **2002**, 12, R554-6	6.3	3
6	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,	11.5	3
5	Promiscuity Promotes Tolerance. *Journal of Immunology*, **2016**, 196, 2913-4	5.3	1
4	Single cell analysis of FOXP3 deficiencies in humans and mice unmasks intrinsic and extrinsic CD4+ T cell perturbations		1
3	Methods of Isolation and Analysis of TREG Immune Infiltrates from Injured and Dystrophic Skeletal Muscle. *Methods in Molecular Biology*, **2019**, 1899, 229-237	1.4	0
2	FoxP3 associates with enhancer-promoter loops to regulate T-specific gene expression.. *Science Immunology*, **2022**, 7, eabj9836	28	0
1	Lymphocyte tolerance: central is central. *Harvey Lectures*, **2003**, 99, 95-110		