Arlene H Sharpe

List of Publications by Year in Descending Order

284 papers	55,499 citations	105 h-index	234 g-index
308 ext. papers	64,961 ext. citations	14.3 avg, IF	7.73 L-index

#	Paper	IF	Citations
284	TCR-sequencing in cancer and autoimmunity: barcodes and beyond.. *Trends in Immunology*, **2022**,	14.4	1
283	PD-L1 promotes myofibroblastic activation of hepatic stellate cells by distinct mechanisms selective for TGF-receptor I versus II.. *Cell Reports*, **2022**, 38, 110349	10.6	0
282	The Programmed Death-1 Pathway Counter-Regulates Inflammation-Induced Osteoclast Activity in Clinical and Experimental Settings.. *Frontiers in Immunology*, **2022**, 13, 773946	8.4	2
281	When killers become thieves: Trogocytosed PD-1 inhibits NK cells in cancer.. *Science Advances*, **2022**, 8, eabj3286	14.3	3
280	The double-edged sword: Harnessing PD-1 blockade in tumor and autoimmunity. *Science Immunology*, **2021**, 6, eabf4034	28	2
279	Monitoring PD-1 Phosphorylation to Evaluate PD-1 Signaling during Antitumor Immune Responses. *Cancer Immunology Research*, **2021**, 9, 1465-1475	12.5	0
278	PD-1 restraint of regulatory T cell suppressive activity is critical for immune tolerance. *Journal of Experimental Medicine*, **2021**, 218,	16.6	47
277	Understanding adverse events of immunotherapy: A mechanistic perspective. *Journal of Experimental Medicine*, **2021**, 218,	16.6	8
276	Single-cell analyses identify circulating anti-tumor CD8 T cells and markers for their enrichment. *Journal of Experimental Medicine*, **2021**, 218,	16.6	18
275	Immune checkpoint inhibitor-associated myocarditis: manifestations and mechanisms. *Journal of Clinical Investigation*, **2021**, 131,	15.9	19
274	The aging lung: Physiology, disease, and immunity. *Cell*, **2021**, 184, 1990-2019	56.2	30
273	Emerging concepts in PD-1 checkpoint biology. *Seminars in Immunology*, **2021**, 52, 101480	10.7	19
272	Progressive immune dysfunction with advancing disease stage in renal cell carcinoma. *Cancer Cell*, **2021**, 39, 632-648.e8	24.3	42
271	Not-so-opposite ends of the spectrum: CD8 T cell dysfunction across chronic infection, cancer and autoimmunity. *Nature Immunology*, **2021**, 22, 809-819	19.1	20
270	Concurrent Dexamethasone Limits the Clinical Benefit of Immune Checkpoint Blockade in Glioblastoma. *Clinical Cancer Research*, **2021**, 27, 276-287	12.9	40
269	Pharmacologic Screening Identifies Metabolic Vulnerabilities of CD8 T Cells. *Cancer Immunology Research*, **2021**, 9, 184-199	12.5	19
268	Expression of T-Cell Exhaustion Molecules and Human Endogenous Retroviruses as Predictive Biomarkers for Response to Nivolumab in Metastatic Clear Cell Renal Cell Carcinoma. *Clinical Cancer Research*, **2021**, 27, 1371-1380	12.9	18

267	Inhibitory signaling sustains a distinct early memory CD8 T cell precursor that is resistant to DNA damage. *Science Immunology*, **2021**, 6,	28	14
266	Epitope spreading toward wild-type melanocyte-lineage antigens rescues suboptimal immune checkpoint blockade responses. *Science Translational Medicine*, **2021**, 13,	17.5	22
265	Control of gasdermin D oligomerization and pyroptosis by the Ragulator-Rag-mTORC1 pathway. *Cell*, **2021**, 184, 4495-4511.e19	56.2	38
264	PD-1 Blockade on Tumor Microenvironment-Resident ILC2s Promotes TNF-Production and Restricts Progression of Metastatic Melanoma. *Frontiers in Immunology*, **2021**, 12, 733136	8.4	4
263	A Cre-driven allele-conditioning line to interrogate CD4 conventional T cells. *Immunity*, **2021**, 54, 2209-2217.e6	31.3	4
262	Development of preclinical and clinical models for immune-related adverse events following checkpoint immunotherapy: a perspective from SITC and AACR **2021**, 9,		4
261	Spatially organized multicellular immune hubs in human colorectal cancer. *Cell*, **2021**, 184, 4734-4752.e20	56.2	22
260	Obesity Shapes Metabolism in the Tumor Microenvironment to Suppress Anti-Tumor Immunity. *Cell* , **2020**, 183, 1848-1866.e26	56.2	112
259	T Follicular Regulatory Cell-Derived Fibrinogen-like Protein 2 Regulates Production of Autoantibodies and Induction of Systemic Autoimmunity. *Journal of Immunology*, **2020**, 205, 3247-3262	5.3	1
258	Interplay of somatic alterations and immune infiltration modulates response to PD-1 blockade in advanced clear cell renal cell carcinoma. *Nature Medicine*, **2020**, 26, 909-918	50.5	155
257	Immunogenomic characterization of advanced clear cell renal cell carcinoma treated with PD-1 blockade.. *Journal of Clinical Oncology*, **2020**, 38, 5010-5010	2.2	2
256	Evaluation of predictive biomarkers for nivolumab in patients (pts) with metastatic clear cell renal cell carcinoma (mccRCC) from the CheckMate-025 (CM-025) trial.. *Journal of Clinical Oncology*, **2020**, 38, 5023-5023	2.2	6
255	The effects of age and systemic metabolism on anti-tumor T cell responses. *ELife*, **2020**, 9,	8.9	11
254	IMMU-09. CONCURRENT DEXAMETHASONE LIMITS THE CLINICAL BENEFIT OF IMMUNE CHECKPOINT BLOCKADE IN GLIOBLASTOMA. *Neuro-Oncology*, **2020**, 22, ii106-ii106	1	1
253	Prevention of CAR-T-cell dysfunction. *Nature Biomedical Engineering*, **2020**, 4, 16-17	19	0
252	Programmed death ligand 2 - A link between inflammation and bone loss in rheumatoid arthritis. *Journal of Translational Autoimmunity*, **2020**, 3, 100028	4.1	5
251	The PD-1 Pathway Regulates Development and Function of Memory CD8 T Cells following Respiratory Viral Infection. *Cell Reports*, **2020**, 31, 107827	10.6	26
250	PD-1 pathway regulates ILC2 metabolism and PD-1 agonist treatment ameliorates airway hyperreactivity. *Nature Communications*, **2020**, 11, 3998	17.4	43

249	The multifaceted functions of follicular regulatory T cells. *Current Opinion in Immunology*, **2020**, 67, 68-74	7.8	19
248	A bilateral tumor model identifies transcriptional programs associated with patient response to immune checkpoint blockade. *Proceedings of the National Academy of Sciences of the United States of America*, **2020**, 117, 23684-23694	11.5	8
247	Follicular regulatory T cells control humoral and allergic immunity by restraining early B cell responses. *Nature Immunology*, **2019**, 20, 1360-1371	19.1	92
246	T Cell Activation Depends on Extracellular Alanine. *Cell Reports*, **2019**, 28, 3011-3021.e4	10.6	52
245	Defining ST cell exhaustionS *Nature Reviews Immunology*, **2019**, 19, 665-674	36.5	387
244	irRECIST for the Evaluation of Candidate Biomarkers of Response to Nivolumab in Metastatic Clear Cell Renal Cell Carcinoma: Analysis of a Phase II Prospective Clinical Trial. *Clinical Cancer Research*, **2019**, 25, 2174-2184	12.9	47
243	FoxP3 and Ezh2 regulate Tfr cell suppressive function and transcriptional program. *Journal of Experimental Medicine*, **2019**, 216, 605-620	16.6	31
242	Adverse Events Following Cancer Immunotherapy: Obstacles and Opportunities. *Trends in Immunology*, **2019**, 40, 511-523	14.4	94
241	A CRISPR-Cas9 delivery system for in vivo screening of genes in the immune system. *Nature Communications*, **2019**, 10, 1668	17.4	47
240	Immuno-PET identifies the myeloid compartment as a key contributor to the outcome of the antitumor response under PD-1 blockade. *Proceedings of the National Academy of Sciences of the United States of America*, **2019**, 116, 16971-16980	11.5	61
239	Subsets of exhausted CD8 T cells differentially mediate tumor control and respond to checkpoint blockade. *Nature Immunology*, **2019**, 20, 326-336	19.1	522
238	Targeting PI3Kδ function for amelioration of murine chronic graft-versus-host disease. *American Journal of Transplantation*, **2019**, 19, 1820-1830	8.7	8
237	Costimulation of type-2 innate lymphoid cells by GITR promotes effector function and ameliorates type 2 diabetes. *Nature Communications*, **2019**, 10, 713	17.4	41
236	PTPN2 regulates the generation of exhausted CD8 T cell subpopulations and restrains tumor immunity. *Nature Immunology*, **2019**, 20, 1335-1347	19.1	68
235	Fibroblastic reticular cells enhance T cell metabolism and survival via epigenetic remodeling. *Nature Immunology*, **2019**, 20, 1668-1680	19.1	26
234	Small-molecule BCL6 inhibitor effectively treats mice with nonsclerodermatous chronic graft-versus-host disease. *Blood*, **2019**, 133, 94-99	2.2	14
233	Role of PD-1 during effector CD8 T cell differentiation. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 4749-4754	11.5	178
232	A phase II study of combined therapy with a BRAF inhibitor (vemurafenib) and interleukin-2 (aldesleukin) in patients with metastatic melanoma. *OncoImmunology*, **2018**, 7, e1423172	7.2	20

231	Inhibitors of the PD-1 Pathway in Tumor Therapy. *Journal of Immunology*, **2018**, 200, 375-383	5.3	82
230	Role of Selenof as a Gatekeeper of Secreted Disulfide-Rich Glycoproteins. *Cell Reports*, **2018**, 23, 1387-1398	8.6	36
229	Dendritic Cell PD-L1 Limits Autoimmunity and Follicular T Cell Differentiation and Function. *Journal of Immunology*, **2018**, 200, 2592-2602	5.3	62
228	The diverse functions of the PD1 inhibitory pathway. *Nature Reviews Immunology*, **2018**, 18, 153-167	36.5	665
227	LSD1 Ablation Stimulates Anti-tumor Immunity and Enables Checkpoint Blockade. *Cell*, **2018**, 174, 549-563.e19	36.2	264
226	Evaluation of predictive biomarkers for nivolumab in metastatic clear cell renal cell carcinoma (mccRCC) using RECIST and immune-related (IR) RECIST.. *Journal of Clinical Oncology*, **2018**, 36, 619-619	2.2	2
225	CD160 Stimulates CD8 T Cell Responses and Is Required for Optimal Protective Immunity to. *ImmunoHorizons*, **2018**, 2, 238-250	2.7	11
224	PD-L1 Prevents the Development of Autoimmune Heart Disease in Graft-versus-Host Disease. *Journal of Immunology*, **2018**, 200, 834-846	5.3	16
223	TSC2-deficient tumors have evidence of T cell exhaustion and respond to anti-PD-1/anti-CTLA-4 immunotherapy. *JCI Insight*, **2018**, 3,	9.9	26
222	Podoplanin+ tumor lymphatics are rate limiting for breast cancer metastasis. *PLoS Biology*, **2018**, 16, e2005907	9.7	13
221	Defective respiration and one-carbon metabolism contribute to impaired naïve T cell activation in aged mice. *Proceedings of the National Academy of Sciences of the United States of America*, **2018**, 115, 13347-13352	11.5	51
220	Rescue of exhausted CD8 T cells by PD-1-targeted therapies is CD28-dependent. *Science*, **2017**, 355, 1423-1427	33.4	486
219	Introduction to checkpoint inhibitors and cancer immunotherapy. *Immunological Reviews*, **2017**, 276, 5-8	11.3	103
218	Anti-Programmed Death 1 (PD1) **2017**, 57-66		1
217	The microRNA miR-31 inhibits CD8 T cell function in chronic viral infection. *Nature Immunology*, **2017**, 18, 791-799	19.1	44
216	PD-L1 on tumor cells is sufficient for immune evasion in immunogenic tumors and inhibits CD8 T cell cytotoxicity. *Journal of Experimental Medicine*, **2017**, 214, 895-904	16.6	382
215	B Cells Drive Autoimmunity in Mice with CD28-Deficient Regulatory T Cells. *Journal of Immunology*, **2017**, 199, 3972-3980	5.3	14
214	Targeted reconstruction of T cell receptor sequence from single cell RNA-seq links CDR3 length to T cell differentiation state. *Nucleic Acids Research*, **2017**, 45, e148	20.1	61

213	In vivo CRISPR screening identifies Ptpn2 as a cancer immunotherapy target. *Nature*, **2017**, 547, 413-418	50.4	510
212	Type 2 innate lymphoid cell suppression by regulatory T cells attenuates airway hyperreactivity and requires inducible T-cell costimulator-inducible T-cell costimulator ligand interaction. *Journal of Allergy and Clinical Immunology*, **2017**, 139, 1468-1477.e2	11.5	121
211	Programmed Death-1 Ligand 2-Mediated Regulation of the PD-L1 to PD-1 Axis Is Essential for Establishing CD4(+) T Cell Immunity. *Immunity*, **2016**, 45, 333-45	32.3	73
210	Anti-CD48 Monoclonal Antibody Attenuates Experimental Autoimmune Encephalomyelitis by Limiting the Number of Pathogenic CD4+ T Cells. *Journal of Immunology*, **2016**, 197, 3038-3048	5.3	8
209	Binding of the cytoplasmic domain of CD28 to the plasma membrane inhibits Lck recruitment and signaling. *Science Signaling*, **2016**, 9, ra75	8.8	32
208	Analysis of Immune Signatures in Longitudinal Tumor Samples Yields Insight into Biomarkers of Response and Mechanisms of Resistance to Immune Checkpoint Blockade. *Cancer Discovery*, **2016**, 6, 827-37	24.4	561
207	Enhancing the Efficacy of Checkpoint Blockade Through Combination Therapies **2016**, 1-39		
206	T follicular regulatory cells. *Immunological Reviews*, **2016**, 271, 246-59	11.3	215
205	Roles of CD48 in regulating immunity and tolerance. *Clinical Immunology*, **2016**, 164, 10-20	9	75
204	Distinct clinical patterns and immune infiltrates are observed at time of progression on targeted therapy versus immune checkpoint blockade for melanoma. *OncoImmunology*, **2016**, 5, e1136044	7.2	42
203	Coinhibitory Pathways in Immunotherapy for Cancer. *Annual Review of Immunology*, **2016**, 34, 539-73	34.7	507
202	Glioblastoma Eradication Following Immune Checkpoint Blockade in an Orthotopic, Immunocompetent Model. *Cancer Immunology Research*, **2016**, 4, 124-35	12.5	236
201	Programmed death ligand-1 expression on donor T cells drives graft-versus-host disease lethality. *Journal of Clinical Investigation*, **2016**, 126, 2642-60	15.9	63
200	Mitochondrial Biogenesis and Proteome Remodeling Promote One-Carbon Metabolism for T Cell Activation. *Cell Metabolism*, **2016**, 24, 104-17	24.6	178
199	Coinhibitory Pathways in the B7-CD28 Ligand-Receptor Family. *Immunity*, **2016**, 44, 955-72	32.3	315
198	Suppression by T cells leads to durable and selective inhibition of B cell effector function. *Nature Immunology*, **2016**, 17, 1436-1446	19.1	134
197	Defining CD8+ T cells that provide the proliferative burst after PD-1 therapy. *Nature*, **2016**, 537, 417-421	50.4	834
196	Defective TFH Cell Function and Increased TFR Cells Contribute to Defective Antibody Production in Aging. *Cell Reports*, **2015**, 12, 163-71	10.6	82

195	T follicular regulatory cells in the regulation of B cell responses. *Trends in Immunology*, **2015**, 36, 410-8	14.4	188
194	ICOS:ICOS-ligand interaction is required for type 2 innate lymphoid cell function, homeostasis, and induction of airway hyperreactivity. *Immunity*, **2015**, 42, 538-51	32.3	200
193	Melanoma Cell-Intrinsic PD-1 Receptor Functions Promote Tumor Growth. *Cell*, **2015**, 162, 1242-56	56.2	365
192	Deletion of CTLA-4 on regulatory T cells during adulthood leads to resistance to autoimmunity. *Journal of Experimental Medicine*, **2015**, 212, 1603-21	16.6	128
191	Ox40L-Ox40 pathway plays distinct roles in regulating Th2 responses but does not determine outcome of cutaneous leishmaniasis caused by Leishmania mexicana and Leishmania major. *Experimental Parasitology*, **2015**, 148, 49-55	2.1	6
190	Hepatic immune regulation by stromal cells. *Current Opinion in Immunology*, **2015**, 32, 1-6	7.8	17
189	ABCB5 Identifies Immunoregulatory Dermal Cells. *Cell Reports*, **2015**, 12, 1564-74	10.6	36
188	Negative Regulation of Humoral Immunity Due to Interplay between the SLAMF1, SLAMF5, and SLAMF6 Receptors. *Frontiers in Immunology*, **2015**, 6, 158	8.4	24
187	The kinase DYRK1A reciprocally regulates the differentiation of Th17 and regulatory T cells. *ELife*, **2015**, 4,	8.9	33
186	Genetic absence of PD-1 promotes accumulation of terminally differentiated exhausted CD8+ T cells. *Journal of Experimental Medicine*, **2015**, 212, 1125-37	16.6	242
185	Mitochondrial metabolism in T cell activation and senescence: a mini-review. *Gerontology*, **2015**, 61, 131-8	3.5	33
184	PD-L1 Antibodies to Its Cytoplasmic Domain Most Clearly Delineate Cell Membranes in Immunohistochemical Staining of Tumor Cells. *Cancer Immunology Research*, **2015**, 3, 1308-15	12.5	96
183	The PTEN pathway in Tregs is a critical driver of the suppressive tumor microenvironment. *Science Advances*, **2015**, 1, e1500845	14.3	113
182	Transgenic expression of CXCR3 on T cells enhances susceptibility to cutaneous Leishmania major infection by inhibiting monocyte maturation and promoting a Th2 response. *Infection and Immunity*, **2015**, 83, 67-76	3.7	8
181	Inducible RNAi in vivo reveals that the transcription factor BATF is required to initiate but not maintain CD8+ T-cell effector differentiation. *Proceedings of the National Academy of Sciences of the United States of America*, **2015**, 112, 512-7	11.5	22
180	Control of PI(3) kinase in Treg cells maintains homeostasis and lineage stability. *Nature Immunology* , **2015**, 16, 188-96	19.1	270
179	A phase II study of combined therapy with vemurafenib (vem) and high-dose interleukin-2 (aldesleukin; HD IL-2) in patients with metastatic melanoma.. *Journal of Clinical Oncology*, **2015**, 33, e20074-e20074	2.2	1
178	Helicobacter pylori cag pathogenicity island's role in B7-H1 induction and immune evasion. *PLoS ONE*, **2015**, 10, e0121841	3.7	19

177	CD39 Expression Identifies Terminally Exhausted CD8+ T Cells. *PLoS Pathogens*, **2015**, 11, e1005177	7.6	183
176	In vitro assay to sensitively measure T(FR) suppressive capacity and T(FH) stimulation of B cell responses. *Methods in Molecular Biology*, **2015**, 1291, 151-60	1.4	25
175	Loss of Programmed Death Ligand-1 Expression on Donor T Cells Lessens Acute Graft-Versus-Host Disease Lethality. *Blood*, **2015**, 126, 147-147	2.2	
174	GEF-H1 controls microtubule-dependent sensing of nucleic acids for antiviral host defenses. *Nature Immunology*, **2014**, 15, 63-71	19.1	32
173	Balance and imbalance in the immune system: life on the edge. *Immunity*, **2014**, 41, 682-4	32.3	23
172	Coinfection with Streptococcus pneumoniae modulates the B cell response to influenza virus. *Journal of Virology*, **2014**, 88, 11995-2005	6.6	21
171	Interplay between regulatory T cells and PD-1 in modulating T cell exhaustion and viral control during chronic LCMV infection. *Journal of Experimental Medicine*, **2014**, 211, 1905-18	16.6	151
170	RGMb is a novel binding partner for PD-L2 and its engagement with PD-L2 promotes respiratory tolerance. *Journal of Experimental Medicine*, **2014**, 211, 943-59	16.6	182
169	Inclusion of CD80 in HSV targets the recombinant virus to PD-L1 on DCs and allows productive infection and robust immune responses. *PLoS ONE*, **2014**, 9, e87617	3.7	18
168	The coinhibitory receptor CTLA-4 controls B cell responses by modulating T follicular helper, T follicular regulatory, and T regulatory cells. *Immunity*, **2014**, 41, 1026-39	32.3	263
167	Checkpoint blockade cancer immunotherapy targets tumour-specific mutant antigens. *Nature*, **2014**, 515, 577-81	50.4	1331
166	Response to BRAF inhibition in melanoma is enhanced when combined with immune checkpoint blockade. *Cancer Immunology Research*, **2014**, 2, 643-54	12.5	190
165	Treg cells expressing the coinhibitory molecule TIGIT selectively inhibit proinflammatory Th1 and Th17 cell responses. *Immunity*, **2014**, 40, 569-81	32.3	456
164	Circulating T follicular regulatory and helper cells have memory-like properties. *Journal of Clinical Investigation*, **2014**, 124, 5191-204	15.9	166
163	DEC-205-mediated antigen targeting to steady-state dendritic cells induces deletion of diabetogenic CD8+ T cells independently of PD-1 and PD-L1. *International Immunology*, **2013**, 25, 651-60	4.9	16
162	The receptor PD-1 controls follicular regulatory T cells in the lymph nodes and blood. *Nature Immunology*, **2013**, 14, 152-61	19.1	340
161	PD-1 dependent exhaustion of CD8+ T cells drives chronic malaria. *Cell Reports*, **2013**, 5, 1204-13	10.6	111
160	B7h (ICOS-L) maintains tolerance at the fetomaternal interface. *American Journal of Pathology*, **2013**, 182, 2204-13	5.8	24

159	Lack of PD-L1 expression by iNKT cells improves the course of influenza A infection. *PLoS ONE*, **2013**, 8, e59599	3.7	18
158	Brief report: increased expression of a short splice variant of CTLA-4 exacerbates lupus in MRL/lpr mice. *Arthritis and Rheumatism*, **2013**, 65, 764-9		7
157	BRAF inhibition is associated with increased clonality in tumor-infiltrating lymphocytes. *OncoImmunology*, **2013**, 2, e26615	7.2	82
156	Host programmed death ligand 1 is dominant over programmed death ligand 2 expression in regulating graft-versus-host disease lethality. *Blood*, **2013**, 122, 3062-73	2.2	141
155	Anti-Programmed Death 1 (PD1) **2013**, 1-10		
154	PD-L1 and PD-L2 Protect The Heart In a T-Cell Receptor Transgenic Model Of Graft-Versus Host Disease. *Blood*, **2013**, 122, 4479-4479	2.2	
153	Crucial role of granulocytic myeloid-derived suppressor cells in the regulation of central nervous system autoimmune disease. *Journal of Immunology*, **2012**, 188, 1136-46	5.3	157
152	CD28 costimulation regulates genome-wide effects on alternative splicing. *PLoS ONE*, **2012**, 7, e40032	3.7	29
151	CD80 expression on B cells regulates murine T follicular helper development, germinal center B cell survival, and plasma cell generation. *Journal of Immunology*, **2012**, 188, 4217-25	5.3	75
150	Neuronal programmed cell death-1 ligand expression regulates retinal ganglion cell number in neonatal and adult mice. *Journal of Neuro-Ophthalmology*, **2012**, 32, 227-37	2.6	7
149	Overexpression of the Ctla-4 isoform lacking exons 2 and 3 causes autoimmunity. *Journal of Immunology*, **2012**, 188, 155-62	5.3	23
148	PD-1 protects against inflammation and myocyte damage in T cell-mediated myocarditis. *Journal of Immunology*, **2012**, 188, 4876-84	5.3	163
147	The SLAM family member CD48 (Slamf2) protects lupus-prone mice from autoimmune nephritis. *Journal of Autoimmunity*, **2011**, 37, 48-57	15.5	20
146	Anti-CD3 mAb treatment cures PDL1-/-.NOD mice of diabetes but precipitates fatal myocarditis. *Clinical Immunology*, **2011**, 140, 47-53	9	1
145	Antigen-specific CD4 T-cell help rescues exhausted CD8 T cells during chronic viral infection. *Proceedings of the National Academy of Sciences of the United States of America*, **2011**, 108, 21182-7	11.5	131
144	Physiologic control of IDO competence in splenic dendritic cells. *Journal of Immunology*, **2011**, 187, 2329-35	5.3	63
143	The programmed death-1 ligand 1:B7-1 pathway restrains diabetogenic effector T cells in vivo. *Journal of Immunology*, **2011**, 187, 1097-105	5.3	128
142	Auto-antibody production and glomerulonephritis in congenic Slamf1-/- and Slamf2-/- [B6.129] but not in Slamf1-/- and Slamf2-/- [BALB/c.129] mice. *International Immunology*, **2011**, 23, 149-58	4.9	18

141	The novel costimulatory programmed death ligand 1/B7.1 pathway is functional in inhibiting alloimmune responses in vivo. *Journal of Immunology*, **2011**, 187, 1113-9	5.3	99
140	Cutting edge: TIGIT has T cell-intrinsic inhibitory functions. *Journal of Immunology*, **2011**, 186, 1338-42	5.3	307
139	Impairment of the programmed cell death-1 pathway increases atherosclerotic lesion development and inflammation. *Arteriosclerosis, Thrombosis, and Vascular Biology*, **2011**, 31, 1100-7	9.4	118
138	The role of LAT in increased CD8+ T cell exhaustion in trigeminal ganglia of mice latently infected with herpes simplex virus 1. *Journal of Virology*, **2011**, 85, 4184-97	6.6	87
137	The PD-1 pathway in tolerance and autoimmunity. *Immunological Reviews*, **2010**, 236, 219-42	11.3	1437
136	PD-1 regulates germinal center B cell survival and the formation and affinity of long-lived plasma cells. *Nature Immunology*, **2010**, 11, 535-42	19.1	490
135	Taming tissue-specific T cells: CTLA-4 reins in self-reactive T cells. *Nature Immunology*, **2010**, 11, 109-11	19.1	23
134	Regulation of T-cell chemotaxis by programmed death-ligand 1 (PD-L1) in dry eye-associated corneal inflammation **2010**, 51, 3418-23		50
133	Role of PD-1 in regulating acute infections. *Current Opinion in Immunology*, **2010**, 22, 397-401	7.8	104
132	PD-L1 has distinct functions in hematopoietic and nonhematopoietic cells in regulating T cell responses during chronic infection in mice. *Journal of Clinical Investigation*, **2010**, 120, 2508-15	15.9	107
131	Enhanced selection of FoxP3+ T-regulatory cells protects CTLA-4-deficient mice from CNS autoimmune disease. *Proceedings of the National Academy of Sciences of the United States of America*, **2009**, 106, 3306-11	11.5	38
130	Genetic evidence that the differential expression of the ligand-independent isoform of CTLA-4 is the molecular basis of the Idd5.1 type 1 diabetes region in nonobese diabetic mice. *Journal of Immunology*, **2009**, 183, 5146-57	5.3	62
129	Cutting edge: IL-27 induces the transcription factor c-Maf, cytokine IL-21, and the costimulatory receptor ICOS that coordinately act together to promote differentiation of IL-10-producing Tr1 cells. *Journal of Immunology*, **2009**, 183, 797-801	5.3	378
128	Constitutive neuronal expression of the immune regulator, programmed death 1 (PD-1), identified during experimental autoimmune uveitis. *Ocular Immunology and Inflammation*, **2009**, 17, 47-55	2.8	32
127	Intestinal tolerance is converted to autoimmune enteritis upon PD-1 ligand blockade. *Journal of Immunology*, **2009**, 182, 2102-12	5.3	93
126	Ctla-4 controls regulatory T cell peripheral homeostasis and is required for suppression of pancreatic islet autoimmunity. *Journal of Immunology*, **2009**, 182, 274-82	5.3	116
125	Role of the immune modulator programmed cell death-1 during development and apoptosis of mouse retinal ganglion cells **2009**, 50, 4941-8		15
124	B7-1/2, but not PD-L1/2 molecules, are required on IL-10-treated tolerogenic DC and DC-derived exosomes for in vivo function. *European Journal of Immunology*, **2009**, 39, 3084-90	6.1	46

123	The costimulatory molecule ICOS regulates the expression of c-Maf and IL-21 in the development of follicular T helper cells and TH-17 cells. *Nature Immunology*, **2009**, 10, 167-75	19.1	557
122	Mechanisms of costimulation. *Immunological Reviews*, **2009**, 229, 5-11	11.3	235
121	PD-L1 regulates the development, maintenance, and function of induced regulatory T cells. *Journal of Experimental Medicine*, **2009**, 206, 3015-29	16.6	1384
120	Intrafollicular location of marginal zone/CD1d(hi) B cells is associated with autoimmune pathology in a mouse model of lupus. *Laboratory Investigation*, **2008**, 88, 1008-20	5.9	21
119	Programmed death ligand 1 regulates a critical checkpoint for autoimmune myocarditis and pneumonitis in MRL mice. *Journal of Immunology*, **2008**, 181, 2513-21	5.3	124
118	ICOS/ICOSL interaction is required for CD4+ invariant NKT cell function and homeostatic survival. *Journal of Immunology*, **2008**, 180, 5448-56	5.3	66
117	T-cell costimulation and coinhibition in atherosclerosis. *Circulation Research*, **2008**, 103, 1220-31	15.7	107
116	PD-1 and its ligands in tolerance and immunity. *Annual Review of Immunology*, **2008**, 26, 677-704	34.7	3557
115	Proatherogenic immune responses are regulated by the PD-1/PD-L pathway in mice. *Journal of Clinical Investigation*, **2007**, 117, 2974-82	15.9	119
114	PD-1 and its ligands in T-cell immunity. *Current Opinion in Immunology*, **2007**, 19, 309-14	7.8	329
113	The function of programmed cell death 1 and its ligands in regulating autoimmunity and infection. *Nature Immunology*, **2007**, 8, 239-45	19.1	1048
112	Viral targeting of fibroblastic reticular cells contributes to immunosuppression and persistence during chronic infection. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 15430-5	11.5	184
111	Programmed death 1 ligand (PD-L) 1 and PD-L2 limit autoimmune kidney disease: distinct roles. *Journal of Immunology*, **2007**, 179, 7466-77	5.3	63
110	The function of donor versus recipient programmed death-ligand 1 in corneal allograft survival. *Journal of Immunology*, **2007**, 179, 3672-9	5.3	88
109	Endothelial programmed death-1 ligand 1 (PD-L1) regulates CD8+ T-cell mediated injury in the heart. *Circulation*, **2007**, 116, 2062-71	16.7	164
108	Paradoxical effect of reduced costimulation in T cell-mediated colitis. *Journal of Immunology*, **2007**, 178, 5563-70	5.3	9
107	PD-1 regulates self-reactive CD8+ T cell responses to antigen in lymph nodes and tissues. *Journal of Immunology*, **2007**, 179, 5064-70	5.3	179
106	CTLA-4 ablation and interleukin-12 driven differentiation synergistically augment cardiac pathogenicity of cytotoxic T lymphocytes. *Circulation Research*, **2007**, 101, 248-57	15.7	57

105	Induction of autoimmune disease in CTLA-4-/- mice depends on a specific CD28 motif that is required for in vivo costimulation. *Proceedings of the National Academy of Sciences of the United States of America*, **2007**, 104, 13756-61	11.5	72
104	Programmed death-1 ligand 1 interacts specifically with the B7-1 costimulatory molecule to inhibit T cell responses. *Immunity*, **2007**, 27, 111-22	32.3	1206
103	TIM-1 and TIM-4 glycoproteins bind phosphatidylserine and mediate uptake of apoptotic cells. *Immunity*, **2007**, 27, 927-40	32.3	461
102	PD-L1 and PD-L2 have distinct roles in regulating host immunity to cutaneous leishmaniasis. *European Journal of Immunology*, **2006**, 36, 58-64	6.1	66
101	T-cell costimulation--biology, therapeutic potential, and challenges. *New England Journal of Medicine*, **2006**, 355, 973-5	59.2	167
100	Reinvigorating exhausted HIV-specific T cells via PD-1-PD-1 ligand blockade. *Journal of Experimental Medicine*, **2006**, 203, 2223-7	16.6	333
99	Impaired regulatory T-cell response and enhanced atherosclerosis in the absence of inducible costimulatory molecule. *Circulation*, **2006**, 114, 2047-55	16.7	187
98	Inducible co-stimulator null MRL-Faslpr mice: uncoupling of autoantibodies and T cell responses in lupus. *Journal of the American Society of Nephrology: JASN*, **2006**, 17, 122-30	12.7	24
97	Blockade of CTLA-4 on CD4+CD25+ regulatory T cells abrogates their function in vivo. *Journal of Immunology*, **2006**, 177, 4376-83	5.3	320
96	Tissue expression of PD-L1 mediates peripheral T cell tolerance. *Journal of Experimental Medicine*, **2006**, 203, 883-95	16.6	875
95	CD48 controls T-cell and antigen-presenting cell functions in experimental colitis. *Gastroenterology*, **2006**, 130, 424-34	13.3	24
94	Restoring function in exhausted CD8 T cells during chronic viral infection. *Nature*, **2006**, 439, 682-7	50.4	2903
93	Synergistic costimulation by both B7 molecules regulates colitis pathogenesis. *Annals of the New York Academy of Sciences*, **2006**, 1072, 233-41	6.5	5
92	An important role of CD80/CD86-CTLA-4 signaling during photocarcinogenesis in mice. *Journal of Immunology*, **2005**, 174, 5298-305	5.3	44
91	Targeting of inducible costimulator (ICOS) expressed on alloreactive T cells down-regulates graft-versus-host disease (GVHD) and facilitates engraftment of allogeneic bone marrow (BM). *Blood*, **2005**, 105, 3372-80	2.2	104
90	The B7 family revisited. *Annual Review of Immunology*, **2005**, 23, 515-48	34.7	1861
89	The B7/CD28 costimulatory family in autoimmunity. *Immunological Reviews*, **2005**, 204, 128-43	11.3	115
88	Rap1-GTP is a negative regulator of Th cell function and promotes the generation of CD4+CD103+ regulatory T cells in vivo. *Journal of Immunology*, **2005**, 175, 3133-9	5.3	30

87	Analysis of the role of negative T cell costimulatory pathways in CD4 and CD8 T cell-mediated alloimmune responses in vivo. *Journal of Immunology*, **2005**, 174, 6648-56	5.3	127
86	ICOS contributes to T cell expansion in CTLA-4 deficient mice. *Journal of Immunology*, **2005**, 175, 182-8	5.3	11
85	The ICOS molecule plays a crucial role in the development of mucosal tolerance. *Journal of Immunology*, **2005**, 175, 7341-7	5.3	66
84	Programmed death-1 (PD-1):PD-ligand 1 interactions inhibit TCR-mediated positive selection of thymocytes. *Journal of Immunology*, **2005**, 175, 7372-9	5.3	105
83	B7-1/B7-2 costimulation regulates plaque antigen-specific T-cell responses and atherogenesis in low-density lipoprotein receptor-deficient mice. *Circulation*, **2004**, 109, 2009-15	16.7	112
82	The cell surface receptor SLAM controls T cell and macrophage functions. *Journal of Experimental Medicine*, **2004**, 199, 1255-64	16.6	134
81	B7 expression on T cells down-regulates immune responses through CTLA-4 ligation via T-T interactions [corrections]. *Journal of Immunology*, **2004**, 172, 34-9	5.3	109
80	Mechanism of action of donor-specific transfusion in inducing tolerance: role of donor MHC molecules, donor co-stimulatory molecules, and indirect antigen presentation. *Journal of the American Society of Nephrology: JASN*, **2004**, 15, 2423-8	12.7	37
79	PD-L1-deficient mice show that PD-L1 on T cells, antigen-presenting cells, and host tissues negatively regulates T cells. *Proceedings of the National Academy of Sciences of the United States of America*, **2004**, 101, 10691-6	11.5	474
78	Deletion of a conserved Il4 silencer impairs T helper type 1-mediated immunity. *Nature Immunology* , **2004**, 5, 1251-9	19.1	100
77	An autoimmune disease-associated CTLA-4 splice variant lacking the B7 binding domain signals negatively in T cells. *Immunity*, **2004**, 20, 563-75	32.3	180
76	Induction of B7-1 in podocytes is associated with nephrotic syndrome. *Journal of Clinical Investigation*, **2004**, 113, 1390-7	15.9	408
75	Rap1-GTP Promotes the Generation of Regulatory T Cells in Vivo.. *Blood*, **2004**, 104, 110-110	2.2	1
74	A role for the B7-1/B7-2:CD28/CTLA-4 pathway during negative selection. *Journal of Immunology*, **2003**, 170, 5421-8	5.3	64
73	Recovery from EAE is associated with decreased survival of encephalitogenic T cells in the CNS of B7-1/B7-2-deficient mice. *European Journal of Immunology*, **2003**, 33, 2022-2032	6.1	31
72	Regulation of PD-1, PD-L1, and PD-L2 expression during normal and autoimmune responses. *European Journal of Immunology*, **2003**, 33, 2706-16	6.1	456
71	Endothelial expression of PD-L1 and PD-L2 down-regulates CD8+ T cell activation and cytolysis. *European Journal of Immunology*, **2003**, 33, 3117-26	6.1	350
70	The inhibitory function of B7 costimulators in T cell responses to foreign and self-antigens. *Nature Immunology*, **2003**, 4, 664-9	19.1	155

69	The threshold pattern of calcineurin-dependent gene expression is altered by loss of the endogenous inhibitor calcipressin. *Nature Immunology*, **2003**, 4, 874-81	19.1	103
68	The role of the ICOS-B7h T cell costimulatory pathway in transplantation immunity. *Journal of Clinical Investigation*, **2003**, 112, 234-43	15.9	40
67	The role of the ICOS-B7h T cell costimulatory pathway in transplantation immunity. *Journal of Clinical Investigation*, **2003**, 112, 234-243	15.9	107
66	CTLA-4 regulates cell cycle progression during a primary immune response. *European Journal of Immunology*, **2002**, 32, 366-73	6.1	101
65	T helper differentiation in resistant and susceptible B7-deficient mice infected with Leishmania major. *European Journal of Immunology*, **2002**, 32, 1764-72	6.1	22
64	Genetic background determines the requirement for B7 costimulation in induction of autoimmunity. *European Journal of Immunology*, **2002**, 32, 2687-97	6.1	14
63	Negative co-receptors on lymphocytes. *Current Opinion in Immunology*, **2002**, 14, 391-6	7.8	135
62	Antigen-specific regulatory T cells develop via the ICOS-ICOS-ligand pathway and inhibit allergen-induced airway hyperreactivity. *Nature Medicine*, **2002**, 8, 1024-32	50.5	672
61	The B7-CD28 superfamily. *Nature Reviews Immunology*, **2002**, 2, 116-26	36.5	1314
60	Role of the B7-CD28/CTLA-4 pathway in autoimmune disease. *Current Directions in Autoimmunity*, **2002**, 5, 113-30		28
59	Memory Th2 effector cells can develop in the absence of B7-1/B7-2, CD28 interactions, and effector Th cells after priming with an intestinal nematode parasite. *Journal of Immunology*, **2002**, 168, 6344-51	5.3	25
58	Cutting edge: a crucial role for B7-CD28 in transmitting T help from APC to CTL. *Journal of Immunology*, **2002**, 169, 4094-7	5.3	46
57	CD80+Gr-1+ myeloid cells inhibit development of antifungal Th1 immunity in mice with candidiasis. *Journal of Immunology*, **2002**, 169, 3180-90	5.3	114
56	Cutting edge: CTLA-4 (CD152) differentially regulates mitogen-activated protein kinases (extracellular signal-regulated kinase and c-Jun N-terminal kinase) in CD4+ T cells from receptor/ligand-deficient mice. *Journal of Immunology*, **2002**, 169, 3475-9	5.3	58
55	Role of B7 costimulatory molecules in the adjuvant activity of the heat-labile enterotoxin of Escherichia coli. *Journal of Immunology*, **2002**, 169, 1744-52	5.3	26
54	Cutting edge: inducible costimulator protein regulates both Th1 and Th2 responses to cutaneous leishmaniasis. *Journal of Immunology*, **2002**, 168, 991-5	5.3	53
53	The CD154/CD40 interaction required for retrovirus-induced murine immunodeficiency syndrome is not mediated by upregulation of the CD80/CD86 costimulatory molecules. *Journal of Virology*, **2002** , 76, 13106-10	6.6	13
52	PD-L2 is a second ligand for PD-1 and inhibits T cell activation. *Nature Immunology*, **2001**, 2, 261-8	19.1	2040

51	ICOS is critical for CD40-mediated antibody class switching. *Nature*, **2001**, 409, 102-5	50.4	550
50	Rejection of mouse cardiac allografts by costimulation in trans. *Journal of Immunology*, **2001**, 167, 1174-8	5.3	40
49	CD28-independent costimulation of T cells in alloimmune responses. *Journal of Immunology*, **2001**, 167, 140-6	5.3	104
48	CTLA-4 regulates induction of anergy in vivo. *Immunity*, **2001**, 14, 145-55	32.3	359
47	B7-dependent T-cell costimulation in mice lacking CD28 and CTLA4. *Journal of Clinical Investigation*, **2001**, 107, 881-7	15.9	70
46	Costimulation by B7-1 and B7-2 is required for autoimmune disease in MRL-Faslpr mice. *Journal of Immunology*, **2000**, 164, 6046-56	5.3	73
45	Stimulation of the B cell receptor, CD86 (B7-2), and the beta 2-adrenergic receptor intrinsically modulates the level of IgG1 and IgE produced per B cell. *Journal of Immunology*, **2000**, 165, 680-90	5.3	118
44	B7 co-stimulatory requirements differ for induction of immune responses by DNA, protein and recombinant pox virus vaccination. *European Journal of Immunology*, **2000**, 30, 2650-9	6.1	22
43	Prevention and treatment of factor VIII inhibitors in murine hemophilia A. *Blood*, **2000**, 95, 1324-1329	2.2	156
42	Functional equivalency of B7-1 and B7-2 for costimulating plasmid DNA vaccine-elicited CTL responses. *Journal of Immunology*, **2000**, 165, 6791-5	5.3	30
41	Either B7 costimulation or IL-2 can elicit generation of primary alloreactive CTL. *Journal of Immunology*, **2000**, 165, 3088-93	5.3	18
40	A critical role for B7/CD28 costimulation in experimental autoimmune encephalomyelitis: a comparative study using costimulatory molecule-deficient mice and monoclonal antibody blockade. *Journal of Immunology*, **2000**, 164, 136-43	5.3	133
39	B7-1 (CD80) and B7-2 (CD86) have complementary roles in mediating allergic pulmonary inflammation and airway hyperresponsiveness. *American Journal of Respiratory Cell and Molecular Biology*, **2000**, 22, 265-71	5.7	45
38	B7 costimulation is critical for antibody class switching and CD8(+) cytotoxic T-lymphocyte generation in the host response to vesicular stomatitis virus. *Journal of Virology*, **2000**, 74, 203-8	6.6	61
37	Autoantibody responses and pathology regulated by B7-1 and B7-2 costimulation in MRL/lpr lupus. *Journal of Immunology*, **2000**, 165, 3436-43	5.3	40
36	The role of B7 costimulation in CD4/CD8 T cell homeostasis. *Journal of Immunology*, **2000**, 164, 3543-53	5.3	48
35	Association of B7-1 co-stimulation with the development of graft arterial disease. Studies using mice lacking B7-1, B7-2, or B7-1/B7-2. *American Journal of Pathology*, **2000**, 157, 473-84	5.8	37
34	B7/CD28 costimulation is essential for the homeostasis of the CD4+CD25+ immunoregulatory T cells that control autoimmune diabetes. *Immunity*, **2000**, 12, 431-40	32.3	1709

33	Mouse inducible costimulatory molecule (ICOS) expression is enhanced by CD28 costimulation and regulates differentiation of CD4+ T cells. *Journal of Immunology*, **2000**, 165, 5035-40	5.3	365
32	Absence of host B7 expression is sufficient for long-term murine vascularized heart allograft survival. *Transplantation*, **2000**, 69, 904-9	1.8	46
31	Studies in B7-deficient mice reveal a critical role for B7 costimulation in both induction and effector phases of experimental autoimmune encephalomyelitis. *Journal of Experimental Medicine*, **1999**, 190, 733-40	16.6	183
30	B7-1 or B7-2 is required to produce the lymphoproliferative phenotype in mice lacking cytotoxic T lymphocyte-associated antigen 4 (CTLA-4). *Journal of Experimental Medicine*, **1999**, 189, 435-40	16.6	124
29	The B7-CD28/CTLA-4 costimulatory pathways in autoimmune disease of the central nervous system. *Current Opinion in Immunology*, **1999**, 11, 677-83	7.8	65
28	p63 is essential for regenerative proliferation in limb, craniofacial and epithelial development. *Nature*, **1999**, 398, 714-8	50.4	1858
27	Ox40-ligand has a critical costimulatory role in dendritic cell:T cell interactions. *Immunity*, **1999**, 11, 689-98	32.3	266
26	Heparin is essential for the storage of specific granule proteases in mast cells. *Nature*, **1999**, 400, 769-72	50.4	364
25	Complete sequence determination of the mouse and human CTLA4 gene loci: cross-species DNA sequence similarity beyond exon borders. *Genomics*, **1999**, 60, 341-55	4.3	57
24	Cognate stimulatory B-cell-T-cell interactions are critical for T-cell help recruited by glycoconjugate vaccines. *Infection and Immunity*, **1999**, 67, 6375-84	3.7	75
23	The role of B7 co-stimulation in activation and differentiation of CD4+ and CD8+ T cells. *Immunological Reviews*, **1998**, 165, 231-47	11.3	251
22	Distinct roles for B7 costimulation in contact hypersensitivity and humoral immune responses to epicutaneous antigen. *European Journal of Immunology*, **1998**, 28, 4221-7	6.1	19
21	B7 (CD80 and CD86) **1998**, 304-308		1
20	B7-1 and B7-2 have overlapping, critical roles in immunoglobulin class switching and germinal center formation. *Immunity*, **1997**, 6, 303-13	32.3	438
19	The costimulatory genes Cd80 and Cd86 are linked on mouse chromosome 16 and human chromosome 3. *Mammalian Genome*, **1997**, 8, 581-2	3.2	14
18	Costimulatory signals and viral immunity. *Seminars in Virology*, **1996**, 7, 103-111		5
17	Costimulation and autoimmunity. *Current Opinion in Immunology*, **1996**, 8, 822-30	7.8	86
16	B7-Deficient Mice Reveal an Alternative Functional CTLA-4 Counterreceptor **1996**, 107-120		

15	Lethal beta-thalassaemia in mice lacking the erythroid CACCC-transcription factor EKLF. *Nature*, **1995**, 375, 318-22	50.4	543
14	Transgenic mice for the preparation of hygromycin-resistant primary embryonic fibroblast feeder layers for embryonic stem cell selections. *Nucleic Acids Research*, **1995**, 23, 1273-5	20.1	20
13	Loss of CTLA-4 leads to massive lymphoproliferation and fatal multiorgan tissue destruction, revealing a critical negative regulatory role of CTLA-4. *Immunity*, **1995**, 3, 541-7	32.3	2277
12	Reciprocal expression of co-stimulatory molecules, B7-1 and B7-2, on murine T cells following activation. *European Journal of Immunology*, **1995**, 25, 207-11	6.1	69
11	A negative regulatory function of B7 revealed in B7-1 transgenic mice. *Immunity*, **1994**, 1, 415-21	32.3	75
10	Uncovering of functional alternative CTLA-4 counter-receptor in B7-deficient mice. *Science*, **1993**, 262, 907-9	33.3	326
9	Reovirus Cytopathology: Effects on Cellular Macromolecular Synthesis and the Cytoskeleton **1984**, 431-464		
8	Pathogenesis of Reovirus Infection **1983**, 229-285		17
7	The interaction of mammalian reoviruses with the cytoskeleton of monkey kidney CV-1 cells. *Virology*, **1982**, 120, 399-411	3.6	103
6	Role of the host cell in persistent viral infection: coevolution of L cells and reovoirus during persistent infection. *Cell*, **1981**, 25, 325-32	56.2	91
5	Genetics of reovirus: identification of the ds RNA segments encoding the polypeptides of the mu and sigma size classes. *Virology*, **1978**, 89, 594-604	3.6	134
4	A genetic map of reovirus. 1. Correlation of genome RNAs between serotypes 1, 2, and 3. *Virology*, **1978**, 84, 63-74	3.6	88
3	A genetic map of reovirus. II. Assignment of the double-stranded RNA-negative mutant groups C, D, and E to genome segments. *Virology*, **1978**, 85, 531-4	3.6	78
2	A genetic map of reovirus. III. Assignment of the double-stranded RNA-positive mutant groups A, B, and G to genome segments. *Virology*, **1978**, 85, 545-56	3.6	48
1	When killers become thieves: trogocytosed PD-1 inhibits NK cells in cancer		3