Rino Rappuoli

List of Publications by Year
in descending order

636 papers	62,587 citations	588 125 h-index	1629 215 g-index
659 all docs	659 docs citations	659 times ranked	39359 citing authors

#	Article	IF	Citations
1	Genome analysis of multiple pathogenic isolates of Streptococcus agalactiae: Implications for the microbial "pan-genome". Proceedings of the National Academy of Sciences of the United States of America, 2005, 102, 13950-13955.	3.3	2,161
2	cag, a pathogenicity island of Helicobacter pylori, encodes type I-specific and disease-associated virulence factors. Proceedings of the National Academy of Sciences of the United States of America, 1996, 93, 14648-14653.	3.3	1,801
3	Identification of Vaccine Candidates Against Serogroup B Meningococcus by Whole-Genome Sequencing. Science, 2000, 287, 1816-1820.	6.0	1,258
4	The microbial pan-genome. Current Opinion in Genetics and Development, 2005, 15, 589-594.	1.5	1,151
5	Complete Genome Sequence of Neisseria meningitidis Serogroup B Strain MC58. Science, 2000, 287, 1809-1815.	6.0	1,083
6	Helicobacter pylori Virulence and Genetic Geography. Science, 1999, 284, 1328-1333.	6.0	998
7	An efficient method to make human monoclonal antibodies from memory B cells: potent neutralization of SARS coronavirus. Nature Medicine, 2004, 10, 871-875.	15.2	679
8	A universal vaccine for serogroup B meningococcus. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 10834-10839.	3.3	657
9	Reverse vaccinology. Current Opinion in Microbiology, 2000, 3, 445-450.	2.3	610
10	Development of a mouse model of Helicobacter pylori infection that mimics human disease. Science, 1995, 267, 1655-1658.	6.0	603
11	Tyrosine phosphorylation of the Helicobacter pylori CagA antigen after cag-driven host cell translocation. Proceedings of the National Academy of Sciences of the United States of America, 2000, 97, 1263-1268.	3.3	551
12	Analysis of expression of CagA and VacA virulence factors in 43 strains of Helicobacter pylori reveals that clinical isolates can be divided into two major types and that CagA is not necessary for expression of the vacuolating cytotoxin. Infection and Immunity, 1995, 63, 94-98.	1.0	547
13	Coxsackie B4 virus infection of beta cells and natural killer cell insulitis in recent-onset type 1 diabetic patients. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 5115-5120.	3.3	521
14	Nonviral delivery of self-amplifying RNA vaccines. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 14604-14609.	3.3	498
15	Identification of a Universal Group B Streptococcus Vaccine by Multiple Genome Screen. Science, 2005, 309, 148-150.	6.0	497
16	SARS â€" beginning to understand a new virus. Nature Reviews Microbiology, 2003, 1, 209-218.	13.6	469
17	Correlates of adjuvanticity: A review on adjuvants in licensed vaccines. Seminars in Immunology, 2018, 39, 14-21.	2.7	455
18	Living dangerously: how Helicobacter pylori survives in the human stomach. Nature Reviews Molecular Cell Biology, 2001, 2, 457-466.	16.1	447

#	Article	IF	Citations
19	Complete genome sequence and comparative genomic analysis of an emerging human pathogen, serotype V Streptococcus agalactiae. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 12391-12396.	3.3	447
20	Molecular and cellular signatures of human vaccine adjuvants. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 10501-10506.	3.3	423
21	Reverse Vaccinology: Developing Vaccines in the Era of Genomics. Immunity, 2010, 33, 530-541.	6.6	422
22	A novel glyco-conjugate vaccine against fungal pathogens. Journal of Experimental Medicine, 2005, 202, 597-606.	4.2	409
23	A pneumococcal pilus influences virulence and host inflammatory responses. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 2857-2862.	3.3	395
24	c-Src/Lyn kinases activate Helicobacter pylori CagA through tyrosine phosphorylation of the EPIYA motifs. Molecular Microbiology, 2002, 43, 971-980.	1.2	393
25	Vaccination against Neisseria meningitidis Using Three Variants of the Lipoprotein GNA1870. Journal of Experimental Medicine, 2003, 197, 789-799.	4.2	388
26	Pili in Gram-positive pathogens. Nature Reviews Microbiology, 2006, 4, 509-519.	13.6	388
27	Reverse vaccinology, a genome-based approach to vaccine development. Vaccine, 2001, 19, 2688-2691.	1.7	381
28	Filamentous hemagglutinin of Bordetella pertussis: nucleotide sequence and crucial role in adherence.. Proceedings of the National Academy of Sciences of the United States of America, 1989, 86, 2637-2641.	3.3	368
29	Cloning and sequencing of the pertussis toxin genes: operon structure and gene duplication.. Proceedings of the National Academy of Sciences of the United States of America, 1986, 83, 4631-4635.	3.3	358
30	New adjuvants for human vaccines. Current Opinion in Immunology, 2010, 22, 411-416.	2.4	352
31	Vaccines for the 21st century. EMBO Molecular Medicine, 2014, 6, 708-720.	3.3	342
32	Mutants of pertussis toxin suitable for vaccine development. Science, 1989, 246, 497-500.	6.0	341
33	NadA, a Novel Vaccine Candidate of Neisseria meningitidis. Journal of Experimental Medicine, 2002, 195, 1445-1454.	4.2	337
34	Vaccines for the twenty-first century society. Nature Reviews Immunology, 2011, 11, 865-872.	10.6	328
35	Microbiology in the post-genomic era. Nature Reviews Microbiology, 2008, 6, 419-430.	13.6	324
36	The new multicomponent vaccine against meningococcal serogroup B, 4CMenB: Immunological, functional and structural characterization of the antigens. Vaccine, 2012, 30, B87-B97.	1.7	309

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37	Sequences required for expression of Bordetella pertussis virulence factors share homology with prokaryotic signal transduction proteins. Proceedings of the National Academy of Sciences of the United States of America, 1989, 86, 6671-6675.	3.3	306
38	MF59 Adjuvant Enhances Diversity and Affinity of Antibody-Mediated Immune Response to Pandemic Influenza Vaccines. Science Translational Medicine, 2011, 3, 85ra48.	5.8	304
39	Reverse vaccinology 2.0: Human immunology instructs vaccine antigen design. Journal of Experimental Medicine, 2016, 213, 469-481.	4.2	299
40	Mutants of Escherichia coli heat-labile toxin lacking ADP-ribosyltransferase activity act as nontoxic, mucosal adjuvants.. Proceedings of the National Academy of Sciences of the United States of America, 1995, 92, 1644-1648.	3.3	298
41	Vaccine manufacturing: challenges and solutions. Nature Biotechnology, 2006, 24, 1377-1383.	9.4	288
42	The Neutrophil-Activating Protein (Hp-Nap) of Helicobacter pylori Is a Protective Antigen and a Major Virulence Factor. Journal of Experimental Medicine, 2000, 191, 1467-1476.	4.2	279
43	Genome Analysis Reveals Pili in Group B Streptococcus. Science, 2005, 309, 105-105.	6.0	278
44	Hemagglutination Inhibition Antibody Titers as a Correlate of Protection for Inactivated Influenza Vaccines in Children. Pediatric Infectious Disease Journal, 2011, 30, 1081-1085.	1.1	277
45	Group B Streptococcus: global incidence and vaccine development. Nature Reviews Microbiology, 2006, 4, 932-942.	13.6	272
46	Mucosal Adjuvanticity and Immunogenicity of LTR72, a Novel Mutant of Escherichia coli Heat-labile Enterotoxin with Partial Knockout of ADP-ribosyltransferase Activity. Journal of Experimental Medicine, 1998, 187, 1123-1132.	4.2	270
47	Selective Inhibition of Ii-dependent Antigen Presentation by Helicobacter pylori Toxin VacA. Journal of Experimental Medicine, 1998, 187, 135-140.	4.2	270
48	Qualitative and quantitative assessment of meningococcal antigens to evaluate the potential strain coverage of protein-based vaccines. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 19490-19495.	3.3	267
49	Self-assembling protein nanoparticles in the design of vaccines. Computational and Structural Biotechnology Journal, 2016, 14, 58-68.	1.9	266
50	Predicted strain coverage of a meningococcal multicomponent vaccine (4CMenB) in Europe: a qualitative and quantitative assessment. Lancet Infectious Diseases, The, 2013, 13, 416-425.	4.6	261
51	Transient Facial Nerve Paralysis (Bell's Palsy) following Intranasal Delivery of a Genetically Detoxified Mutant of Escherichia coli Heat Labile Toxin. PLoS ONE, 2009, 4, e6999.	1.1	260
52	The history of MF59^{Â®}adjuvant: a phoenix that arose from the ashes. Expert Review of Vaccines, 2013, 12, 13-30.	2.0	254
53	Adjuvanting a subunit COVID-19 vaccine to induce protective immunity. Nature, 2021, 594, 253-258.	13.7	253
54	SARS-CoV-2 escape from a highly neutralizing COVID-19 convalescent plasma. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	251

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55	The amino-acid sequence of two non-toxic mutants of diphtheria toxin: CRM45 and CRM197. Nucleic Acids Research, 1984, 12, 4063-4069.	6.5	247
56	Adjuvanted H5N1 vaccine induces early CD4⁺T cell response that predicts long-term persistence of protective antibody levels. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 3877-3882.	3.3	242
57	Vaccines with MF59 Adjuvant Expand the Antibody Repertoire to Target Protective Sites of Pandemic Avian H5N1 Influenza Virus. Science Translational Medicine, 2010, 2, 15ra5.	5.8	242
58	Formation of anion-selective channels in the cell plasma membrane by the toxin VacA of Helicobacter pylori is required for its biological activity. EMBO Journal, 1999, 18, 5517-5527.	3.5	240
59	Bordetella parapertussis and Bordetella bronchiseptica contain transcriptionally silent pertussis toxin genes. Journal of Bacteriology, 1987, 169, 2847-2853.	1.0	239
60	Vaccines, new opportunities for a new society. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 12288-12293.	3.3	237
61	A 2020 vision for vaccines against HIV, tuberculosis and malaria. Nature, 2011, 473, 463-469.	13.7	236
62	Counterselectable Markers: Untapped Tools for Bacterial Genetics and Pathogenesis. Infection and Immunity, 1998, 66, 4011-4017.	1.0	234
63	Structural basis for immunization with postfusion respiratory syncytial virus fusion F glycoprotein (RSV F) to elicit high neutralizing antibody titers. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9619-9624.	3.3	233
64	The role of vaccines in combatting antimicrobial resistance. Nature Reviews Microbiology, 2021, 19, 287-302.	13.6	233
65	Cellular vacuoles induced by Helicobacter pylori originate from late endosomal compartments.. Proceedings of the National Academy of Sciences of the United States of America, 1994, 91, 9720-9724.	3.3	232
66	Repeat-associated phase variable genes in the complete genome sequence of Neisseria meningitidis strain MC58. Molecular Microbiology, 2000, 37, 207-215.	1.2	231
67	Identification of protective and broadly conserved vaccine antigens from the genome of extraintestinal pathogenic <i>Escherichia coli</i>. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 9072-9077.	3.3	222
68	Selective increase of the permeability of polarized epithelial cell monolayers by Helicobacter pylori vacuolating toxin.. Journal of Clinical Investigation, 1998, 102, 813-820.	3.9	221
69	Invariant NKT cells sustain specific B cell responses and memory. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 3984-3989.	3.3	213
70	Induction of antigen-specific antibodies in vaginal secretions by using a nontoxic mutant of heat-labile enterotoxin as a mucosal adjuvant. Infection and Immunity, 1996, 64, 974-979.	1.0	213
71	Role of the Helicobacter pylori virulence factors vacuolating cytotoxin, CagA, and urease in a mouse model of disease. Infection and Immunity, 1995, 63, 4154-4160.	1.0	207
72	THEDESIGN OFVACCINESAGAINSTHELICOBACTER PYLORIANDTHEIRDEVELOPMENT. Annual Review of Immunology, 2001, 19, 523-563.	9.5	206

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73	Neisseria meningitidis NadA is a new invasin which promotes bacterial adhesion to and penetration into human epithelial cells. Molecular Microbiology, 2004, 55, 687-698.	1.2	206
74	Antibodies to influenza nucleoprotein cross-react with human hypocretin receptor 2. Science Translational Medicine, 2015, 7, 294ra105.	5.8	206
75	Previously unrecognized vaccine candidates against group B meningococcus identified by DNA microarrays. Nature Biotechnology, 2002, 20, 914-921.	9.4	205
76	<i>Helicobacter pylori</i> cytotoxin-associated gene A (CagA) subverts the apoptosis-stimulating protein of p53 (ASPP2) tumor suppressor pathway of the host. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 9238-9243.	3.3	205
77	Alum adjuvanticity: Unraveling a century old mystery. European Journal of Immunology, 2008, 38, 2068-2071.	1.6	204
78	The small GTP binding protein rab7 is essential for cellular vacuolation induced by Helicobacter pylori cytotoxin. EMBO Journal, 1997, 16, 15-24.	3.5	203
79	<i>Neisseria meningitidis</i> is structured in clades associated with restriction modification systems that modulate homologous recombination. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 4494-4499.	3.3	198
80	Low pH Activates the Vacuolating Toxin of Helicobacter pylori, Which Becomes Acid and Pepsin Resistant. Journal of Biological Chemistry, 1995, 270, 23937-23940.	1.6	197
81	Identification of iron-activated and -repressed Fur-dependent genes by transcriptome analysis of Neisseria meningitidis group B. Proceedings of the National Academy of Sciences of the United States of America, 2003, 100, 9542-9547.	3.3	191
82	Rapidly produced SAM^{Â®} vaccine against H7N9 influenza is immunogenic in mice. Emerging Microbes and Infections, 2013, 2, 1-7.	3.0	189
83	Families of bacterial signal-transducing proteins. Molecular Microbiology, 1989, 3, 1661-1667.	1.2	187
84	From empiricism to rational design: a personal perspective of the evolution of vaccine development. Nature Reviews Immunology, 2014, 14, 505-514.	10.6	185
85	Oligomeric and subunit structure of the Helicobacter pylori vacuolating cytotoxin.. Journal of Cell Biology, 1996, 133, 801-807.	2.3	184
86	The m2 form of the Helicobacter pylori cytotoxin has cell type-specific vacuolating activity. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 10212-10217.	3.3	184
87	The Key Role of Genomics in Modern Vaccine and Drug Design for Emerging Infectious Diseases. PLoS Genetics, 2009, 5, e1000612.	1.5	184
88	<i>Neisseria meningitidis</i> GNA2132, a heparin-binding protein that induces protective immunity in humans. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3770-3775.	3.3	184
89	Extremely potent human monoclonal antibodies from COVID-19 convalescent patients. Cell, 2021, 184, 1821-1835.e16.	13.5	180
90	Changing Priorities in Vaccinology: Antibiotic Resistance Moving to the Top. Frontiers in Immunology, 2018, 9, 1068.	2.2	179

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91	Systems biology of immunity to MF59-adjuvanted versus nonadjuvanted trivalent seasonal influenza vaccines in early childhood. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1853-1858.	3.3	176
92	Vacuoles Induced by Helicobacter pylori Toxin Contain Both Late Endosomal and Lysosomal Markers. Journal of Biological Chemistry, 1997, 272, 25339-25344.	1.6	174
93	Cellular Microbiology Emerging. Science, 1996, 271, 315-316.	6.0	169
94	Fur functions as an activator and as a repressor of putative virulence genes in Neisseria meningitidis. Molecular Microbiology, 2004, 52, 1081-1090.	1.2	168
95	Neisseria meningitidis group B correlates of protection and assay standardizationâ€"International Meeting Report Emory University, Atlanta, Georgia, United States, 16â€"17 March 2005. Vaccine, 2006, 24, 5093-5107.	1.7	168
96	Mucosal Administration of Ag85B-ESAT-6 Protects against Infection with<i>Mycobacterium tuberculosis</i>and Boosts Prior Bacillus Calmette-Guel̀rin Immunity. Journal of Immunology, 2006, 177, 6353-6360.	0.4	168
97	Bridging the knowledge gaps in vaccine design. Nature Biotechnology, 2007, 25, 1361-1366.	9.4	168
98	Therapeutic intragastric vaccination against Helicobacter pylori in mice eradicates an otherwise chronic infection and confers protection against reinfection. Infection and Immunity, 1997, 65, 4996-5002.	1.0	168
99	Did the inheritance of a pathogenicity island modify the virulence of Helicobacter pylori?. Trends in Microbiology, 1997, 5, 205-208.	3.5	167
100	Tyrosine-Phosphorylated Bacterial Proteins. Journal of Experimental Medicine, 2000, 191, 587-592.	4.2	167
101	The Fur repressor controls transcription of iron-activated and -repressed genes in Helicobacter pylori. Molecular Microbiology, 2002, 42, 1297-1309.	1.2	167
102	The design of semi-synthetic and synthetic glycoconjugate vaccines. Expert Opinion on Drug Discovery, 2011, 6, 1045-1066.	2.5	167
103	Vaccine composition formulated with a novel TLR7-dependent adjuvant induces high and broad protection against <i>Staphylococcus aureus</i>. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 3680-3685.	3.3	166
104	Synthetic Generation of Influenza Vaccine Viruses for Rapid Response to Pandemics. Science Translational Medicine, 2013, 5, 185ra68.	5.8	164
105	Intranasal immunogenicity and adjuvanticity of site-directed mutant derivatives of cholera toxin. Infection and Immunity, 1997, 65, 2821-2828.	1.0	162
106	Development and phase 1 clinical testing of a conjugate vaccine against meningococcus A and C. Vaccine, 1992, 10, 691-698.	1.7	161
107	The Helicobacter pylori neutrophil-activating protein is an iron-binding protein with dodecameric structure. Molecular Microbiology, 1999, 34, 238-246.	1.2	159
108	A Second Pilus Type in <i>Streptococcus pneumoniae</i> Is Prevalent in Emerging Serotypes and Mediates Adhesion to Host Cells. Journal of Bacteriology, 2008, 190, 5480-5492.	1.0	159

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109	Glycoconjugate vaccines: Principles and mechanisms. Science Translational Medicine, 2018, 10, .	5.8	158
110	MEDICINE: The Intangible Value of Vaccination. Science, 2002, 297, 937-939.	6.0	151
111	Adjuvanticity of the oil-in-water emulsion MF59 is independent of Nlrp3 inflammasome but requires the adaptor protein MyD88. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 11169-11174.	3.3	149
112	Influenza vaccine immunology. Immunological Reviews, 2011, 239, 167-177.	2.8	146
113	Helicobacter pylori Vacuolating Toxin Forms Anion-Selective Channels in Planar Lipid Bilayers: Possible Implications for the Mechanism of Cellular Vacuolation. Biophysical Journal, 1999, 76, 1401-1409.	0.2	145
114	Three conserved consensus sequences identify the NAD-binding site of ADP-ribosylating enzymes, expressed by eukaryotes, bacteria and T-even bacteriophages. Molecular Microbiology, 1996, 21, 667-674.	1.2	143
115	Structure-based antigen design: a strategy for next generation vaccines. Trends in Biotechnology, 2008, 26, 659-667.	4.9	143
116	RrgA is a pilusâ€associated adhesin in <i>Streptococcus pneumoniae</i>. Molecular Microbiology, 2007, 66, 329-340.	1.2	142
117	Pertussis toxin potentiates Th1 and Th2 responses to co-injected antigen: adjuvant action is associated with enhanced regulatory cytokine production and expression of the co-stimulatory molecules B7- 1, B7-2 and CD28. International Immunology, 1998, 10, 651-662.	1.8	141
118	Technologies to address antimicrobial resistance. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 12887-12895.	3.3	140
119	Probing the structure-activity relationship of Escherichia coli LT-A by site-directed mutagenesis. Molecular Microbiology, 1994, 14, 51-60.	1.2	137
120	Positive transcriptional feedback at the bvg locus controls expression of virulence factors in Bordetella pertussis.. Proceedings of the National Academy of Sciences of the United States of America, 1990, 87, 6753-6757.	3.3	136
121	Rational Design of a Meningococcal Antigen Inducing Broad Protective Immunity. Science Translational Medicine, 2011, 3, 91ra62.	5.8	135
122	Bafilomycin A1 inhibits Helicobacter pylori-induced vacuolization of HeLa cells. Molecular Microbiology, 1993, 7, 323-327.	1.2	134
123	Structure of the Neutrophil-activating Protein from Helicobacter pylori. Journal of Molecular Biology, 2002, 323, 125-130.	2.0	133
124	Emerging infectious diseases: A proactive approach. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, 4055-4059.	3.3	133
125	Vaccinology in the genome era. Journal of Clinical Investigation, 2009, 119, 2515-2525.	3.9	132
126	Structure-based approach to rationally design a chimeric protein for an effective vaccine against Group B <i>Streptococcus</i> infections. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 10278-10283.	3.3	132

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127	The use of genomics in microbial vaccine development. Drug Discovery Today, 2009, 14, 252-260.	3.2	131
128	A Crisis of Public Confidence in Vaccines. Science Translational Medicine, 2010, 2, 61mr1.	5.8	131
129	Elicitation of broadly protective sarbecovirus immunity by receptor-binding domain nanoparticle vaccines. Cell, 2021, 184, 5432-5447.e16.	13.5	131
130	Antibody to Genomeâ€Derived Neisserial Antigen 2132, aNeisseria meningitidisCandidate Vaccine, Confers Protection against Bacteremia in the Absence of Complementâ€Mediated Bactericidal Activity. Journal of Infectious Diseases, 2003, 188, 1730-1740.	1.9	129
131	Transcriptome Analysis of Neisseria meningitidis in Human Whole Blood and Mutagenesis Studies Identify Virulence Factors Involved in Blood Survival. PLoS Pathogens, 2011, 7, e1002027.	2.1	129
132	Structural and biochemical studies of HCMV gH/gL/gO and Pentamer reveal mutually exclusive cell entry complexes. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 1767-1772.	3.3	129
133	Helicobacter pylori toxin VacA induces vacuole formation by acting in the cell cytosol. Molecular Microbiology, 1997, 26, 665-674.	1.2	128
134	MF59 adjuvant: the best insurance against influenza strain diversity. Expert Review of Vaccines, 2011, 10, 447-462.	2.0	128
135	NadA Diversity and Carriage in Neisseria meningitidis. Infection and Immunity, 2004, 72, 4217-4223.	1.0	127
136	Streptococcus pneumoniae Pilus Subunits Protect Mice against Lethal Challenge. Infection and Immunity, 2007, 75, 1059-1062.	1.0	127
137	Defining a protective epitope on factor H binding protein, a key meningococcal virulence factor and vaccine antigen. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 3304-3309.	3.3	125
138	The adjuvant MF59 induces ATP release from muscle that potentiates response to vaccination. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 21095-21100.	3.3	125
139	The Gracefully Aging Immune System. Science Translational Medicine, 2013, 5, 185ps8.	5.8	124
140	Expression and immunological properties of the five subunits of pertussis toxin. Infection and Immunity, 1987, 55, 963-967.	1.0	124
141	Hybrid immunity improves B cells and antibodies against SARS-CoV-2 variants. Nature, 2021, 600, 530-535.	13.7	124
142	The Hsp60 protein of Helicobacter pylori: structure and immune response in patients with gastroduodenal diseases. Molecular Microbiology, 1993, 9, 645-652.	1.2	123
143	Dual RNA-seq of Nontypeable Haemophilus influenzae and Host Cell Transcriptomes Reveals Novel Insights into Host-Pathogen Cross Talk. MBio, 2015, 6, e01765-15.	1.8	123
144	Genetic characterization of Bordetella pertussis filamentous haemagglutinin: a protein processed from an unusually large precursor. Molecular Microbiology, 1990, 4, 787-800.	1.2	122

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145	A genetically detoxified derivative of heat-labile Escherichia coli enterotoxin induces neutralizing antibodies against the A subunit.. Journal of Experimental Medicine, 1994, 180, 2147-2153.	4.2	122
146	Mycobacterial heat-shock proteins as carrier molecules. II: The use of the 70-kDa mycobacterial heat-shock protein as carrier for conjugated vaccinescan circumvent the need for adjuvants and	1.6	120
147	Antimicrobial resistance and the role of vaccines. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 12868-12871.	3.3	120
148	Novel Approaches to Vaccine Delivery. Pharmaceutical Research, 2004, 21, 1519-1530.	1.7	119
149	Vaccines, Reverse Vaccinology, and Bacterial Pathogenesis. Cold Spring Harbor Perspectives in Medicine, 2013, 3, a012476-a012476.	2.9	119
150	Common features of the NAD-binding and catalytic site of ADP-ribosylating toxins. Molecular Microbiology, 1994, 14, 41-50.	1.2	118
151	Subunit S1 of pertussis toxin: mapping of the regions essential for ADP-ribosyltransferase activity.. Proceedings of the National Academy of Sciences of the United States of America, 1988, 85, 7521-7525.	3.3	117
152	Reverse vaccinology. Drug Discovery Today, 2003, 8, 459-464.	3.2	117
153	Synthesis and Characterization of a Native, Oligomeric Form of Recombinant Severe Acute Respiratory Syndrome Coronavirus Spike Glycoprotein. Journal of Virology, 2004, 78, 10328-10335.	1.5	117
154	Structural vaccinology starts to deliver. Nature Reviews Microbiology, 2012, 10, 807-813.	13.6	116
155	The complete nucleotide sequence of the gene coding for diphtheria toxin in the corynephage omega (tox+) genome. Nucleic Acids Research, 1983, 11, 6589-6595.	6.5	115
156	Pneumococcal Pili Are Composed of Protofilaments Exposing Adhesive Clusters of Rrg A. PLoS Pathogens, 2008, 4, e1000026.	2.1	114
157	Post-genomic vaccine development. FEBS Letters, 2006, 580, 2985-2992.	1.3	113
158	Positive regulation of pertussis toxin expression.. Proceedings of the National Academy of Sciences of the United States of America, 1988, 85, 3913-3917.	3.3	111
159	Effect of Helicobacter pylori Vacuolating Toxin on Maturation and Extracellular Release of Procathepsin D and on Epidermal Growth Factor Degradation. Journal of Biological Chemistry, 1997, 272, 25022-25028.	1.6	111
160	Distribution and genetic variability of three vaccine components in a panel of strains representative of the diversity of serogroup B meningococcus. Vaccine, 2009, 27, 2794-2803.	1.7	111
161	Structural basis for lack of toxicity of the diphtheria toxin mutant CRM197. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 5229-5234.	3.3	111
162	Molecular Epidemiology of the 1984â€“1986 Outbreak of Diphtheria in Sweden. New England Journal of Medicine, 1988, 318, 12-14.	13.9	110

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163	Protective Levels of Diphtheria-Neutralizing Antibody Induced in Healthy Volunteers by Unilateral Priming-Boosting Intranasal Immunization Associated with Restricted Ipsilateral Mucosal Secretory Immunoglobulin A. Infection and Immunity, 2003, 71, 726-732.	1.0	110
164	The pan-genome: towards a knowledge-based discovery of novel targets for vaccines and antibacterials. Drug Discovery Today, 2007, 12, 429-439.	3.2	110
165	Molecular mechanisms of complement evasion: learning from staphylococci and meningococci. Nature Reviews Microbiology, 2010, 8, 393-399.	13.6	110
166	Two years into reverse vaccinology. Vaccine, 2003, 21, 605-610.	1.7	109
167	Pertussis toxin export requires accessory genes located downstream from the pertussis toxin operon. Molecular Microbiology, 1993, 8, 429-434.	1.2	108
168	Ng-MIP, a surface-exposed lipoprotein ofNeisseria gonorrhoeae, has a peptidyl-prolylcis/transisomerase (PPIase) activity and is involved in persistence in macrophages. Molecular Microbiology, 2005, 58, 669-681.	1.2	107
169	Comparison of Open-Source Reverse Vaccinology Programs for Bacterial Vaccine Antigen Discovery. Frontiers in Immunology, 2019, 10, 113.	2.2	107
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