William R Schief

List of Publications by Year
in descending order

134 papers	17,407 citations	15504 65 h-index	16650 123 g-index
160 all docs	160 docs citations	160 times ranked	12189 citing authors

#	Article	IF	Citations
1	From structure to sequence: Antibody discovery using cryoEM. Science Advances, 2022, 8, eabk2039.	10.3	18
2	Highly mutated antibodies capable of neutralizing N276 glycan-deficient HIV after a single immunization with an Env trimer. Cell Reports, 2022, 38, 110485.	6.4	4
3	B cells expressing IgM B cell receptors of HIV-1 neutralizing antibodies discriminate antigen affinities by sensing binding association rates. Cell Reports, 2022, 39, 111021.	6.4	6
4	A broad and potent neutralization epitope in SARS-related coronaviruses. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	34
5	CoV3D: a database of high resolution coronavirus protein structures. Nucleic Acids Research, 2021, 49, D282-D287.	14.5	58
6	Modeling Immunity with Rosetta: Methods for Antibody and Antigen Design. Biochemistry, 2021, 60, 825-846.	2.5	24
7	PyRosetta Jupyter Notebooks Teach Biomolecular Structure Prediction and Design. The Biophysicist, 2021, 2, 108-122.	0.3	8
8	Combined PET and whole-tissue imaging of lymphatic-targeting vaccines in non-human primates. Biomaterials, 2021, 275, 120868.	11.4	16
9	Polyclonal antibody responses to HIV Env immunogens resolved using cryoEM. Nature Communications, 2021, 12, 4817.	12.8	35
10	Vaccine genetics of IGHV1-2 VRC01-class broadly neutralizing antibody precursor naÃ¯ve human B cells. Npj Vaccines, 2021, 6, 113.	6.0	40
11	DeGlyPHER: An Ultrasensitive Method for the Analysis of Viral Spike <i>N</i>-Glycoforms. Analytical Chemistry, 2021, 93, 13651-13657.	6.5	7
12	Modulating the quantity of HIV Env-specific CD4 T cell help promotes rare B cell responses in germinal centers. Journal of Experimental Medicine, 2021, 218, .	8.5	35
13	Multiplexed CRISPR/CAS9â€mediated engineering of preâ€clinical mouse models bearing native human B cell receptors. EMBO Journal, 2021, 40, e105926.	7.8	24
14	Ensuring scientific reproducibility in bio-macromolecular modeling via extensive, automated benchmarks. Nature Communications, 2021, 12, 6947.	12.8	16
15	A particulate saponin/TLR agonist vaccine adjuvant alters lymph flow and modulates adaptive immunity. Science Immunology, 2021, 6, eabf1152.	11.9	63
16	Multifaceted Effects of Antigen Valency on B Cell Response Composition and Differentiation InÂVivo. Immunity, 2020, 53, 548-563.e8.	14.3	149
17	Vaccine elicitation of HIV broadly neutralizing antibodies from engineered B cells. Nature Communications, 2020, 11, 5850.	12.8	38
18	B cells expressing authentic naive human VRC01-class BCRs can be recruited to germinal centers and affinity mature in multiple independent mouse models. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 22920-22931.	7.1	42

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19	Targeting HIV Env immunogens to B cell follicles in nonhuman primates through immune complex or protein nanoparticle formulations. Npj Vaccines, 2020, 5, 72.	6.0	39
20	Better together: Elements of successful scientific software development in a distributed collaborative community. PLoS Computational Biology, 2020, 16, e1007507.	3.2	27
21	Macromolecular modeling and design in Rosetta: recent methods and frameworks. Nature Methods, 2020, 17, 665-680.	19.0	513
22	HIV-1 Envelope and MPER Antibody Structures in Lipid Assemblies. Cell Reports, 2020, 31, 107583.	6.4	60
23	Role of nanoscale antigen organization on B-cell activation probed using DNA origami. Nature Nanotechnology, 2020, 15, 716-723.	31.5	263
24	In Vivo Assembly of Nanoparticles Achieved through Synergy of Structureâ€Based Protein Engineering and Synthetic DNA Generates Enhanced Adaptive Immunity. Advanced Science, 2020, 7, 1902802.	11.2	30
25	Engineered immunogen binding to alum adjuvant enhances humoral immunity. Nature Medicine, 2020, 26, 430-440.	30.7	172
26	Nanoparticle Vaccines: In Vivo Assembly of Nanoparticles Achieved through Synergy of Structureâ€Based Protein Engineering and Synthetic DNA Generates Enhanced Adaptive Immunity (Adv.) Tj ETQq0 0 0 rgBT /Overlock 10	11.2	1
27	Enhancing humoral immunity via sustained-release implantable microneedle patch vaccination. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 16473-16478.	7.1	141
28	Rapid and Focused Maturation of a VRC01-Class HIV Broadly Neutralizing Antibody Lineage Involves Both Binding and Accommodation of the N276-Glycan. Immunity, 2019, 51, 141-154.e6.	14.3	71
29	A generalized HIV vaccine design strategy for priming of broadly neutralizing antibody responses. Science, 2019, 366, .	12.6	172
30	Rapid Germinal Center and Antibody Responses in Non-human Primates after a Single Nanoparticle Vaccine Immunization. Cell Reports, 2019, 29, 1756-1766.e8.	6.4	47
31	Potent antibody lineage against malaria transmission elicited by human vaccination with Pfs25. Nature Communications, 2019, 10, 4328.	12.8	37
32	Immunogenicity of RNA Replicons Encoding HIV Env Immunogens Designed for Self-Assembly into Nanoparticles. Molecular Therapy, 2019, 27, 2080-2090.	8.2	58
33	Slow Delivery Immunization Enhances HIV Neutralizing Antibody and Germinal Center Responses via Modulation of Immunodominance. Cell, 2019, 177, 1153-1171.e28.	28.9	293
34	Probing the Role of HIV Antigen Nanoscale Organization on B-Cell Activation with DNA Origami. Biophysical Journal, 2019, 116, 578a.	0.5	0
35	Vaccine-Induced Protection from Homologous Tier 2 SHIV Challenge in Nonhuman Primates Depends on Serum-Neutralizing Antibody Titers. Immunity, 2019, 50, 241-252.e6.	14.3	153
36	Innate immune recognition of glycans targets HIV nanoparticle immunogens to germinal centers. Science, 2019, 363, 649-654.	12.6	227

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37	Automatically Fixing Errors in Glycoprotein Structures with Rosetta. Structure, 2019, 27, 134-139.e3.	3.3	93
38	Precursor Frequency and Affinity Determine B Cell Competitive Fitness in Germinal Centers, Tested with Germline-Targeting HIV Vaccine Immunogens. Immunity, 2018, 48, 133-146.e6.	14.3	274
39	C-103 Germline-targeting vaccine design for HIV. Journal of Acquired Immune Deficiency Syndromes (1999), 2018, 77, 38-38.	2.1	0
40	Enhancing Humoral Responses Against HIV Envelope Trimers via Nanoparticle Delivery with Stabilized Synthetic Liposomes. Scientific Reports, 2018, 8, 16527.	3.3	69
41	When designing vaccines, consider the starting material: the human B cell repertoire. Current Opinion in Immunology, 2018, 53, 209-216.	5.5	52
42	Differential processing of HIV envelope glycans on the virus and soluble recombinant trimer. Nature Communications, 2018, 9, 3693.	12.8	124
43	RosettaAntibodyDesign (RAbD): A general framework for computational antibody design. PLoS Computational Biology, 2018, 14, e1006112.	3.2	115
44	The human naive B cell repertoire contains distinct subclasses for a germline-targeting HIV-1 vaccine immunogen. Science Translational Medicine, 2018, 10, .	12.4	113
45	Glycan Masking Focuses Immune Responses to the HIV-1 CD4-Binding Site and Enhances Elicitation of VRC01-Class Precursor Antibodies. Immunity, 2018, 49, 301-311.e5.	14.3	110
46	Glycoengineering HIV-1 Env creates â€˜superchargedâ€™ and â€˜hybridâ€™ glycans to increase neutralizing antibody potency, breadth and saturation. PLoS Pathogens, 2018, 14, e1007024.	4.7	22
47	Oneâ€step <scp>CRISPR</scp> /Cas9 method for the rapid generation of human antibody heavy chain knockâ€in mice. EMBO Journal, 2018, 37, .	7.8	28
48	Structural delineation of human antibody responses against malaria transmission-blocking vaccine antigen Pfs25. Acta Crystallographica Section A: Foundations and Advances, 2018, 74, a255-a255.	0.1	0
49	Expression of complete SIV p27 Gag and HIV gp120 engineered outer domains targeted by broadly neutralizing antibodies in live rubella vectors. Vaccine, 2017, 35, 3272-3278.	3.8	5
50	Residueâ€centric modeling and design of saccharide and glycoconjugate structures. Journal of Computational Chemistry, 2017, 38, 276-287.	3.3	41
51	Elicitation of Robust Tier 2 Neutralizing Antibody Responses in Nonhuman Primates by HIV Envelope Trimer Immunization Using Optimized Approaches. Immunity, 2017, 46, 1073-1088.e6.	14.3	286
52	Biophysical and Structural Characterization of Antibody Responses to Malaria Antigens. Biophysical Journal, 2017, 112, 51a.	0.5	1
53	Global site-specific N-glycosylation analysis of HIV envelope glycoprotein. Nature Communications, 2017, 8, 14954.	12.8	176
54	Effects of partially dismantling the CD4 binding site glycan fence of HIV-1 Envelope glycoprotein trimers on neutralizing antibody induction. Virology, 2017, 505, 193-209.	2.4	36

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55	Structure-based design of native-like HIV-1 envelope trimers to silence non-neutralizing epitopes and eliminate CD4 binding. Nature Communications, 2017, 8, 1655.	12.8	142
56	Molecular definition of multiple sites of antibody inhibition of malaria transmission-blocking vaccine antigen Pfs25. Nature Communications, 2017, 8, 1568.	12.8	59
57	Lipid interactions and angle of approach to the HIV-1 viral membrane of broadly neutralizing antibody 10E8: Insights for vaccine and therapeutic design. PLoS Pathogens, 2017, 13, e1006212.	4.7	58
58	Minimally Mutated HIV-1 Broadly Neutralizing Antibodies to Guide Reductionist Vaccine Design. PLoS Pathogens, 2016, 12, e1005815.	4.7	104
59	Specifically modified Env immunogens activate B-cell precursors of broadly neutralizing HIV-1 antibodies in transgenic mice. Nature Communications, 2016, 7, 10618.	12.8	166
60	Priming HIV-1 broadly neutralizing antibody precursors in human Ig loci transgenic mice. Science, 2016, 353, 1557-1560.	12.6	147
61	Tailored Immunogens Direct Affinity Maturation toward HIV Neutralizing Antibodies. Cell, 2016, 166, 1459-1470.e11.	28.9	230
62	Sequential Immunization Elicits Broadly Neutralizing Anti-HIV-1 Antibodies in Ig Knockin Mice. Cell, 2016, 166, 1445-1458.e12.	28.9	270
63	Induction of HIV Neutralizing Antibody Lineages in Mice with Diverse Precursor Repertoires. Cell, 2016, 166, 1471-1484.e18.	28.9	198
64	HIV Vaccine Design to Target Germline Precursors of Glycan-Dependent Broadly Neutralizing Antibodies. Immunity, 2016, 45, 483-496.	14.3	335
65	Holes in the Glycan Shield of the Native HIV Envelope Are a Target of Trimer-Elicited Neutralizing Antibodies. Cell Reports, 2016, 16, 2327-2338.	6.4	216
66	A Prominent Site of Antibody Vulnerability on HIV Envelope Incorporates a Motif Associated with CCR5 Binding and Its Camouflaging Glycans. Immunity, 2016, 45, 31-45.	14.3	129
67	Structural basis for nonneutralizing antibody competition at antigenic site II of the respiratory syncytial virus fusion protein. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E6849-E6858.	7.1	38
68	HIV-1 broadly neutralizing antibody precursor B cells revealed by germline-targeting immunogen. Science, 2016, 351, 1458-1463.	12.6	382
69	Vaccine-Elicited Tier 2 HIV-1 Neutralizing Antibodies Bind to Quaternary Epitopes Involving Glycan-Deficient Patches Proximal to the CD4 Binding Site. PLoS Pathogens, 2015, 11, e1004932.	4.7	141
70	Priming a broadly neutralizing antibody response to HIV-1 using a germline-targeting immunogen. Science, 2015, 349, 156-161.	12.6	358
71	HIV-1 neutralizing antibodies induced by native-like envelope trimers. Science, 2015, 349, aac4223.	12.6	482
72	Glycan clustering stabilizes the mannose patch of HIV-1 and preserves vulnerability to broadly neutralizing antibodies. Nature Communications, 2015, 6, 7479.	12.8	113

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73	Comprehensive Sieve Analysis of Breakthrough HIV-1 Sequences in the RV144 Vaccine Efficacy Trial. PLoS Computational Biology, 2015, 11, e1003973.	3.2	51
74	Immunization for HIV-1 Broadly Neutralizing Antibodies in Human Ig Knockin Mice. Cell, 2015, 161, 1505-1515.	28.9	239
75	Promiscuous Glycan Site Recognition by Antibodies to the High-Mannose Patch of gp120 Broadens Neutralization of HIV. Science Translational Medicine, 2014, 6, 236ra63.	12.4	160
76	Computational design of protein antigens that interact with the CDR H3 loop of HIV broadly neutralizing antibody 2F5. Proteins: Structure, Function and Bioinformatics, 2014, 82, 2770-2782.	2.6	16
77	Proof of principle for epitope-focused vaccine design. Nature, 2014, 507, 201-206.	27.8	451
78	Refocussing Antibody Responses by Chemical Modification of Vaccine Antigens. AIDS Research and Human Retroviruses, 2014, 30, A66-A67.	1.1	0
79	Comprehensive Sieve Analysis of Breakthrough HIV-1 Sequences in the RV144 Vaccine Efficacy Trial. AIDS Research and Human Retroviruses, 2014, 30, A25-A26.	1.1	0
80	Investigating Epitope Exposure on Native Trimers. AIDS Research and Human Retroviruses, 2014, 30, A35-A35.	1.1	0
81	A Computationally Designed Inhibitor of an Epstein-Barr Viral Bcl-2 Protein Induces Apoptosis in Infected Cells. Cell, 2014, 157, 1644-1656.	28.9	118
82	Hyperglycosylated Stable Core Immunogens Designed To Present the CD4 Binding Site Are Preferentially Recognized by Broadly Neutralizing Antibodies. Journal of Virology, 2014, 88, 14002-14016.	3.4	43
83	Escape from neutralization by the respiratory syncytial virus-specific neutralizing monoclonal antibody palivizumab is driven by changes in on-rate of binding to the fusion protein. Virology, 2014, 454-455, 139-144.	2.4	31
84	Computation-Guided Vaccine Design. Biophysical Journal, 2013, 104, 185a.	0.5	0
85	Nitric oxide synthase domain interfaces regulate electron transfer and calmodulin activation. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E3577-86.	7.1	84
86	Rational HIV Immunogen Design to Target Specific Germline B Cell Receptors. Science, 2013, 340, 711-716.	12.6	680
87	Advances in structure-based vaccine design. Current Opinion in Virology, 2013, 3, 322-331.	5.4	87
88	Glycan Masking of Plasmodium vivax Duffy Binding Protein for Probing Protein Binding Function and Vaccine Development. PLoS Pathogens, 2013, 9, e1003420.	4.7	28
89	Immune Tolerance Negatively Regulates B Cells in Knock-In Mice Expressing Broadly Neutralizing HIV Antibody 4E10. Journal of Immunology, 2013, 191, 3186-3191.	0.8	103
90	B Cells from Knock-in Mice Expressing Broadly Neutralizing HIV Antibody b12 Carry an Innocuous B Cell Receptor Responsive to HIV Vaccine Candidates. Journal of Immunology, 2013, 191, 3179-3185.	0.8	41

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91	Reversion of Somatic Mutations of the Respiratory Syncytial Virusâ€“Specific Human Monoclonal Antibody Fab19 Reveal a Direct Relationship between Association Rate and Neutralizing Potency. Journal of Immunology, 2013, 190, 3732-3739.	0.8	26
92	Engineering HIV envelope protein to activate germline B cell receptors of broadly neutralizing anti-CD4 binding site antibodies. Journal of Experimental Medicine, 2013, 210, 655-663.	8.5	275
93	An HIV-1 Envelope Glycoprotein Trimer with an Embedded IL-21 Domain Activates Human B Cells. PLoS ONE, 2013, 8, e67309.	2.5	4
94	Anti-HIV B Cell Lines as Candidate Vaccine Biosensors. Journal of Immunology, 2012, 189, 4816-4824.	0.8	57
95	Increased HIV-1 vaccine efficacy against viruses with genetic signatures in Env V2. Nature, 2012, 490, 417-420.	27.8	405
96	Computational Design of High-Affinity Epitope Scaffolds by Backbone Grafting of a Linear Epitope. Journal of Molecular Biology, 2012, 415, 175-192.	4.2	99
97	A Blueprint for HIV Vaccine Discovery. Cell Host and Microbe, 2012, 12, 396-407.	11.0	348
98	Learning from Nature to design new biomolecules. Current Opinion in Structural Biology, 2012, 22, 395-396.	5.7	0
99	Computation-Guided Backbone Grafting of a Discontinuous Motif onto a Protein Scaffold. Science, 2011, 334, 373-376.	12.6	212
100	Design and Characterization of Stabilized Derivatives of Human CD4D12 and CD4D1. Biochemistry, 2011, 50, 7891-7900.	2.5	11
101	Computational Protein Design Using Flexible Backbone Remodeling and Resurfacing: Case Studies in Structure-Based Antigen Design. Journal of Molecular Biology, 2011, 405, 284-297.	4.2	60
102	Design and Characterization of Epitope-Scaffold Immunogens That Present the Motavizumab Epitope from Respiratory Syncytial Virus. Journal of Molecular Biology, 2011, 409, 853-866.	4.2	100
103	Heterologous Epitope-Scaffold Primeâˆ¶Boosting Immuno-Focuses B Cell Responses to the HIV-1 gp41 2F5 Neutralization Determinant. PLoS ONE, 2011, 6, e16074.	2.5	75
104	A Potent and Broad Neutralizing Antibody Recognizes and Penetrates the HIV Glycan Shield. Science, 2011, 334, 1097-1103.	12.6	644
105	Highâ€resolution structure prediction of a circular permutation loop. Protein Science, 2011, 20, 1929-1934.	7.6	3
106	A Chimeric HIV-1 Envelope Glycoprotein Trimer with an Embedded Granulocyte-Macrophage Colony-stimulating Factor (GM-CSF) Domain Induces Enhanced Antibody and T Cell Responses. Journal of Biological Chemistry, 2011, 286, 22250-22261.	3.4	15
107	Structure of HIV-1 gp120 V1/V2 domain with broadly neutralizing antibody PG9. Nature, 2011, 480, 336-343.	27.8	794
108	Recurrent Signature Patterns in HIV-1 B Clade Envelope Glycoproteins Associated with either Early or Chronic Infections. PLoS Pathogens, 2011, 7, e1002209.	4.7	114

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109	RosettaRemodel: A Generalized Framework for Flexible Backbone Protein Design. PLoS ONE, 2011, 6, e24109.	2.5	310
110	Computational Design of Epitope-Scaffolds Allows Induction of Antibodies Specific for a Poorly Immunogenic HIV Vaccine Epitope. Structure, 2010, 18, 1116-1126.	3.3	203
111	Elicitation of structure-specific antibodies by epitope scaffolds. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17880-17887.	7.1	261
112	Role of Complex Carbohydrates in Human Immunodeficiency Virus Type 1 Infection and Resistance to Antibody Neutralization. Journal of Virology, 2010, 84, 5637-5655.	3.4	127
113	Structure of HIV-1 gp120 with gp41-interactive region reveals layered envelope architecture and basis of conformational mobility. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 1166-1171.	7.1	304
114	Rational Design of Envelope Identifies Broadly Neutralizing Human Monoclonal Antibodies to HIV-1. Science, 2010, 329, 856-861.	12.6	1,600
115	Challenges for structure-based HIV vaccine design. Current Opinion in HIV and AIDS, 2009, 4, 431-440.	3.8	104
116	Immunogenicity of HIV-1 envelope glycoprotein oligomers. Current Opinion in HIV and AIDS, 2009, 4, 380-387.	3.8	76
117	Structural basis of HIV-1 gp120 conformational mobility. Acta Crystallographica Section A: Foundations and Advances, 2009, 65, s24-s24.	0.3	3
118	Mapping a common interaction site used by <i>Plasmodium falciparum</i> Duffy bindingâ€like domains to bind diverse host receptors. Molecular Microbiology, 2008, 67, 78-87.	2.5	70
119	Inhibition of kinesin motility by ADP and phosphate supports a hand-over-hand mechanism. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 1183-1188.	7.1	103
120	Rosetta predictions in CASP5: Successes, failures, and prospects for complete automation. Proteins: Structure, Function and Bioinformatics, 2003, 53, 457-468.	2.6	162
121	Liquid-Crystalline Collapse of Pulmonary Surfactant Monolayers. Biophysical Journal, 2003, 84, 3792-3806.	0.5	81
122	Molecular Motors: Single-Molecule Recordings Made Easy. Current Biology, 2002, 12, R203-R205.	3.9	4
123	Discrepancy between Phase Behavior of Lung Surfactant Phospholipids and the Classical Model of Surfactant Function. Biophysical Journal, 2001, 81, 2172-2180.	0.5	83
124	Conformational changes during kinesin motility. Current Opinion in Cell Biology, 2001, 13, 19-28.	5.4	126
125	Light scattering microscopy from monolayers and nanoparticles at the air/water interface. Colloids and Surfaces A: Physicochemical and Engineering Aspects, 2000, 171, 75-86.	4.7	20
126	Two-dimensional crystallization of streptavidin: in pursuit of the molecular origins of structure, morphology, and thermodynamics. New Biotechnology, 1999, 16, 29-38.	2.7	12

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127	Binding and two-dimensional crystallization of streptavidin at the air/water interface via engineered Cu-IDA chelator lipids. Coordination Chemistry Reviews, 1999, 183, 3-18.	18.8	12
128	Phase Separation in Monolayers of Pulmonary Surfactant Phospholipids at the Airâ€"Water Interface: Composition and Structure. Biophysical Journal, 1999, 77, 2051-2061.	0.5	98
129	Molecular Basis for Ionic Strength Dependence and Crystal Morphology in Two-Dimensional Streptavidin Crystallization. Langmuir, 1998, 14, 4683-4687.	3.5	25
130	Electron Crystallographic Analysis of Two-Dimensional Streptavidin Crystals Coordinated to Metal-Chelated Lipid Monolayers. Biophysical Journal, 1998, 74, 2674-2679.	0.5	19
131	Dynamics of two-dimensional protein crystallization at the air/water interface: streptavidin targetted to surfaces via high-affinity binding or metal coordination. Supramolecular Science, 1997, 4, 163-171.	0.7	13
132	Two-Dimensional Crystallization of Streptavidin Studied by Quantitative Brewster Angle Microscopy. Langmuir, 1996, 12, 1312-1320.	3.5	61
133	Highly Mutated Antibodies Capable of Neutralizing N276-Glycan Deficient HIV after a Single Immunization with an Env Trimer. SSRN Electronic Journal, 0, , .	0.4	0
134	Longitudinally Tracked, Rapid and Robust Antigen-Specific Germinal Center Responses in Non-Human Primates after a Single Nanoparticle Vaccine Immunization. SSRN Electronic Journal, 0, , .	0.4	1