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	Rational Design of Envelope Identifies Broadly Neutralizing Human Monoclonal Antibodies to HIV-1. Science, 2010, 329, 856-861.	12.6	1,600
2	Structure of HIV-1 gp120 V1/V2 domain with broadly neutralizing antibody PG9. Nature, 2011, 480, 336-343.	27.8	794
3	Rational HIV Immunogen Design to Target Specific Germline B Cell Receptors. Science, 2013, 340, 711-716.	12.6	680
4	A Potent and Broad Neutralizing Antibody Recognizes and Penetrates the HIV Glycan Shield. Science, 2011, 334, 1097-1103.	12.6	644
5	Macromolecular modeling and design in Rosetta: recent methods and frameworks. Nature Methods, 2020, 17, 665-680.	19.0	513
6	HIV-1 neutralizing antibodies induced by native-like envelope trimers. Science, 2015, 349, aac4223.	12.6	482
7	Proof of principle for epitope-focused vaccine design. Nature, 2014, 507, 201-206.	27.8	451
8	Increased HIV-1 vaccine efficacy against viruses with genetic signatures in Env V2. Nature, 2012, 490, 417-420.	27.8	405
9	HIV-1 broadly neutralizing antibody precursor B cells revealed by germline-targeting immunogen. Science, 2016, 351, 1458-1463.	12.6	382
10	Priming a broadly neutralizing antibody response to HIV-1 using a germline-targeting immunogen. Science, 2015, 349, 156-161.	12.6	358
11	A Blueprint for HIV Vaccine Discovery. Cell Host and Microbe, 2012, 12, 396-407.	11.0	348
12	HIV Vaccine Design to Target Germline Precursors of Glycan-Dependent Broadly Neutralizing Antibodies. Immunity, 2016, 45, 483-496.	14.3	335
13	RosettaRemodel: A Generalized Framework for Flexible Backbone Protein Design. PLoS ONE, 2011, 6, e24109.	2.5	310
14	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
15	Slow Delivery Immunization Enhances HIV Neutralizing Antibody and Germinal Center Responses via Modulation of Immunodominance. Cell, 2019, 177, 1153-1171.e28.	28.9	293
16	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
17	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
18	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

#	Article	IF	Citations
19	Sequential Immunization Elicits Broadly Neutralizing Anti-HIV-1 Antibodies in Ig Knockin Mice. Cell, 2016, 166, 1445-1458.e12.	28.9	270
20	Role of nanoscale antigen organization on B-cell activation probed using DNA origami. Nature Nanotechnology, 2020, 15, 716-723.	31.5	263
21	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
22	Immunization for HIV-1 Broadly Neutralizing Antibodies in Human Ig Knockin Mice. Cell, 2015, 161, 1505-1515.	28.9	239
23	Tailored Immunogens Direct Affinity Maturation toward HIV Neutralizing Antibodies. Cell, 2016, 166, 1459-1470.e11.	28.9	230
24	Innate immune recognition of glycans targets HIV nanoparticle immunogens to germinal centers. Science, 2019, 363, 649-654.	12.6	227
25	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
26	Computation-Guided Backbone Grafting of a Discontinuous Motif onto a Protein Scaffold. Science, 2011, 334, 373-376.	12.6	212
27	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
28	Induction of HIV Neutralizing Antibody Lineages in Mice with Diverse Precursor Repertoires. Cell, 2016, 166, 1471-1484.e18.	28.9	198
29	Global site-specific N-glycosylation analysis of HIV envelope glycoprotein. Nature Communications, 2017, 8, 14954.	12.8	176
30	A generalized HIV vaccine design strategy for priming of broadly neutralizing antibody responses. Science, 2019, 366, .	12.6	172
31	Engineered immunogen binding to alum adjuvant enhances humoral immunity. Nature Medicine, 2020, 26, 430-440.	30.7	172
32	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
33	Rosetta predictions in CASP5: Successes, failures, and prospects for complete automation. Proteins: Structure, Function and Bioinformatics, 2003, 53, 457-468.	2.6	162
34	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
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	Multifaceted Effects of Antigen Valency on B Cell Response Composition and Differentiation InÂVivo. Immunity, 2020, 53, 548-563.e8.	14.3	149

#	Article	IF	Citations
37	Priming HIV-1 broadly neutralizing antibody precursors in human Ig loci transgenic mice. Science, 2016, 353, 1557-1560.	12.6	147
38	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
39	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
40	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
41	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
42	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
43	Conformational changes during kinesin motility. Current Opinion in Cell Biology, 2001, 13, 19-28.	5.4	126
44	Differential processing of HIV envelope glycans on the virus and soluble recombinant trimer. Nature Communications, 2018, 9, 3693.	12.8	124
45	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
46	RosettaAntibodyDesign (RAbD): A general framework for computational antibody design. PLoS Computational Biology, 2018, 14, e1006112.	3.2	115
47	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
48	Glycan clustering stabilizes the mannose patch of HIV-1 and preserves vulnerability to broadly neutralizing antibodies. Nature Communications, 2015, 6, 7479.	12.8	113
49	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
50	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
51	Challenges for structure-based HIV vaccine design. Current Opinion in HIV and AIDS, 2009, 4, 431-440.	3.8	104
52	Minimally Mutated HIV-1 Broadly Neutralizing Antibodies to Guide Reductionist Vaccine Design. PLoS Pathogens, 2016, 12, e1005815.	4.7	104
53	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
54	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

#	Article	IF	Citations
55	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
56	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
57	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
58	Automatically Fixing Errors in Glycoprotein Structures with Rosetta. Structure, 2019, 27, 134-139.e3.	3.3	93
59	Advances in structure-based vaccine design. Current Opinion in Virology, 2013, 3, 322-331.	5.4	87
60	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
61	Discrepancy between Phase Behavior of Lung Surfactant Phospholipids and the Classical Model of Surfactant Function. Biophysical Journal, 2001, 81, 2172-2180.	0.5	83
62	Liquid-Crystalline Collapse of Pulmonary Surfactant Monolayers. Biophysical Journal, 2003, 84, 3792-3806.	0.5	81
63	Immunogenicity of HIV-1 envelope glycoprotein oligomers. Current Opinion in HIV and AIDS, 2009, 4, 380-387.	3.8	76
64	Heterologous Epitope-Scaffold Primeâ^¶Boosting Immuno-Focuses B Cell Responses to the HIV-1 gp41 2F5 Neutralization Determinant. PLoS ONE, 2011, 6, e16074.	2.5	75
65	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
66	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
67	Enhancing Humoral Responses Against HIV Envelope Trimers via Nanoparticle Delivery with Stabilized Synthetic Liposomes. Scientific Reports, 2018, 8, 16527.	3.3	69
68	A particulate saponin/TLR agonist vaccine adjuvant alters lymph flow and modulates adaptive immunity. Science Immunology, 2021, 6, eabf1152.	11.9	63
69	Two-Dimensional Crystallization of Streptavidin Studied by Quantitative Brewster Angle Microscopy. Langmuir, 1996, 12, 1312-1320.	3.5	61
70	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
71	HIV-1 Envelope and MPER Antibody Structures in Lipid Assemblies. Cell Reports, 2020, 31, 107583.	6.4	60
72	Molecular definition of multiple sites of antibody inhibition of malaria transmission-blocking vaccine antigen Pfs25. Nature Communications, 2017, 8, 1568.	12.8	59

#	Article	IF	Citations
73	Immunogenicity of RNA Replicons Encoding HIV Env Immunogens Designed for Self-Assembly into Nanoparticles. Molecular Therapy, 2019, 27, 2080-2090.	8.2	58
74	CoV3D: a database of high resolution coronavirus protein structures. Nucleic Acids Research, 2021, 49, D282-D287.	14.5	58
75	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
76	Anti-HIV B Cell Lines as Candidate Vaccine Biosensors. Journal of Immunology, 2012, 189, 4816-4824.	0.8	57
77	When designing vaccines, consider the starting material: the human B cell repertoire. Current Opinion in Immunology, 2018, 53, 209-216.	5.5	52
78	Comprehensive Sieve Analysis of Breakthrough HIV-1 Sequences in the RV144 Vaccine Efficacy Trial. PLoS Computational Biology, 2015, 11, e1003973.	3.2	51
79	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
80	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
81	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
82	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
83	Residueâ€centric modeling and design of saccharide and glycoconjugate structures. Journal of Computational Chemistry, 2017, 38, 276-287.	3.3	41
84	Vaccine genetics of IGHV1-2 VRC01-class broadly neutralizing antibody precursor naÃ¯ve human B cells. Npj Vaccines, 2021, 6, 113.	6.0	40
85	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
86	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
87	Vaccine elicitation of HIV broadly neutralizing antibodies from engineered B cells. Nature Communications, 2020, 11, 5850.	12.8	38
88	Potent antibody lineage against malaria transmission elicited by human vaccination with Pfs25. Nature Communications, 2019, 10, 4328.	12.8	37
89	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
90	Polyclonal antibody responses to HIV Env immunogens resolved using cryoEM. Nature Communications, 2021, 12, 4817.	12.8	35

#	Article	IF	Citations
91	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
92	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
93	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
94	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
95	Glycan Masking of Plasmodium vivax Duffy Binding Protein for Probing Protein Binding Function and Vaccine Development. PLoS Pathogens, 2013, 9, e1003420.	4.7	28
96	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
97	Better together: Elements of successful scientific software development in a distributed collaborative community. PLoS Computational Biology, 2020, 16, e1007507.	3.2	27
98	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
99	Molecular Basis for Ionic Strength Dependence and Crystal Morphology in Two-Dimensional Streptavidin Crystallization. Langmuir, 1998, 14, 4683-4687.	3.5	25
100	Modeling Immunity with Rosetta: Methods for Antibody and Antigen Design. Biochemistry, 2021, 60, 825-846.	2.5	24
101	Multiplexed CRISPR/CAS9â€mediated engineering of preâ€clinical mouse models bearing native human B cell receptors. EMBO Journal, 2021, 40, e105926.	7.8	24
102	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
103	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
104	Electron Crystallographic Analysis of Two-Dimensional Streptavidin Crystals Coordinated to Metal-Chelated Lipid Monolayers. Biophysical Journal, 1998, 74, 2674-2679.	0.5	19
105	From structure to sequence: Antibody discovery using cryoEM. Science Advances, 2022, 8, eabk2039.	10.3	18
106	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
107	Combined PET and whole-tissue imaging of lymphatic-targeting vaccines in non-human primates. Biomaterials, 2021, 275, 120868.	11.4	16
108	Ensuring scientific reproducibility in bio-macromolecular modeling via extensive, automated benchmarks. Nature Communications, 2021, 12, 6947.	12.8	16

#	Article	IF	Citations
109	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
110	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
111	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
112	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
113	Design and Characterization of Stabilized Derivatives of Human CD4D12 and CD4D1. Biochemistry, 2011, 50, 7891-7900.	2.5	11
114	PyRosetta Jupyter Notebooks Teach Biomolecular Structure Prediction and Design. The Biophysicist, 2021, 2, 108-122.	0.3	8
115	DeGlyPHER: An Ultrasensitive Method for the Analysis of Viral Spike <i>N</i>-Glycoforms. Analytical Chemistry, 2021, 93, 13651-13657.	6.5	7
116	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
117	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
118	Molecular Motors: Single-Molecule Recordings Made Easy. Current Biology, 2002, 12, R203-R205.	3.9	4
119	An HIV-1 Envelope Glycoprotein Trimer with an Embedded IL-21 Domain Activates Human B Cells. PLoS ONE, 2013, 8, e67309.	2.5	4
120	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
121	Highâ€resolution structure prediction of a circular permutation loop. Protein Science, 2011, 20, 1929-1934.	7.6	3
122	Structural basis of HIV-1 gp120 conformational mobility. Acta Crystallographica Section A: Foundations and Advances, 2009, 65, s24-s24.	0.3	3
123	Biophysical and Structural Characterization of Antibody Responses to Malaria Antigens. Biophysical Journal, 2017, 112, 51a.	0.5	1
124	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
125	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
126	Learning from Nature to design new biomolecules. Current Opinion in Structural Biology, 2012, 22, 395-396.	5.7	0

#	Article	IF	Citations
127	Computation-Guided Vaccine Design. Biophysical Journal, 2013, 104, 185a.	0.5	0
128	Refocussing Antibody Responses by Chemical Modification of Vaccine Antigens. AIDS Research and Human Retroviruses, 2014, 30, A66-A67.	1.1	0
129	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
130	Investigating Epitope Exposure on Native Trimers. AIDS Research and Human Retroviruses, 2014, 30, A35-A35.	1.1	0
131	C-103 Germline-targeting vaccine design for HIV. Journal of Acquired Immune Deficiency Syndromes (1999), 2018, 77, 38-38.	2.1	0
132	Probing the Role of HIV Antigen Nanoscale Organization on B-Cell Activation with DNA Origami. Biophysical Journal, 2019, 116, 578a.	0.5	0
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	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