Sean P J Whelan

List of Publications by Year
in descending order

100 papers	11,414 citations	41344 49 h-index	38395 95 g-index
127 all docs	127 docs citations	127 times ranked	16143 citing authors

#	Article	IF	Citations
1	Complete Mapping of Mutations to the SARS-CoV-2 Spike Receptor-Binding Domain that Escape Antibody Recognition. Cell Host and Microbe, 2021, 29, 44-57.e9.	11.0	937
2	TMPRSS2 and TMPRSS4 promote SARS-CoV-2 infection of human small intestinal enterocytes. Science Immunology, 2020, 5, .	11.9	811
3	N-terminal domain antigenic mapping reveals a site of vulnerability for SARS-CoV-2. Cell, 2021, 184, 2332-2347.e16.	28.9	784
4	Identification of SARS-CoV-2 spike mutations that attenuate monoclonal and serum antibody neutralization. Cell Host and Microbe, 2021, 29, 477-488.e4.	11.0	700
5	Rapid isolation and profiling of a diverse panel of human monoclonal antibodies targeting the SARS-CoV-2 spike protein. Nature Medicine, 2020, 26, 1422-1427.	30.7	450
6	SARS-CoV-2 RBD antibodies that maximize breadth and resistance to escape. Nature, 2021, 597, 97-102.	27.8	385
7	Neutralizing Antibody and Soluble ACE2 Inhibition of a Replication-Competent VSV-SARS-CoV-2 and a Clinical Isolate of SARS-CoV-2. Cell Host and Microbe, 2020, 28, 475-485.e5.	11.0	380
8	Vesicular Stomatitis Virus Enters Cells through Vesicles Incompletely Coated with Clathrin That Depend upon Actin for Internalization. PLoS Pathogens, 2009, 5, e1000394.	4.7	290
9	Effect of Immunosuppression on the Immunogenicity of mRNA Vaccines to SARS-CoV-2. Annals of Internal Medicine, 2021, 174, 1572-1585.	3.9	273
10	In vivo monoclonal antibody efficacy against SARS-CoV-2 variant strains. Nature, 2021, 596, 103-108.	27.8	222
11	Broad sarbecovirus neutralization by a human monoclonal antibody. Nature, 2021, 597, 103-108.	27.8	220
12	Structure of the L Protein of Vesicular Stomatitis Virus from Electron Cryomicroscopy. Cell, 2015, 162, 314-327.	28.9	211
13	Germinal centre-driven maturation of B cell response to mRNA vaccination. Nature, 2022, 604, 141-145.	27.8	198
14	Genome-wide RNAi screen reveals a specific sensitivity of IRES-containing RNA viruses to host translation inhibition. Genes and Development, 2005, 19, 445-452.	5.9	193
15	Cholesterol 25-hydroxylase suppresses SARS-CoV-2 replication by blocking membrane fusion. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 32105-32113.	7.1	192
16	Phase Transitions Drive the Formation of Vesicular Stomatitis Virus Replication Compartments. MBio, 2018, 9, .	4.1	183
17	Anterograde or retrograde transsynaptic labeling of CNS neurons with vesicular stomatitis virus vectors. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 15414-15419.	7.1	172
18	Replication-Competent Vesicular Stomatitis Virus Vaccine Vector Protects against SARS-CoV-2-Mediated Pathogenesis in Mice. Cell Host and Microbe, 2020, 28, 465-474.e4.	11.0	156

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19	A ribosome-specialized translation initiation pathway is required for cap-dependent translation of vesicular stomatitis virus mRNAs. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 324-329.	7.1	155
20	Inhibition of PIKfyve kinase prevents infection by Zaire ebolavirus and SARS-CoV-2. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 20803-20813.	7.1	154
21	The Length of Vesicular Stomatitis Virus Particles Dictates a Need for Actin Assembly during Clathrin-Dependent Endocytosis. PLoS Pathogens, 2010, 6, e1001127.	4.7	149
22	SARS-CoV-2 spreads through cell-to-cell transmission. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	7.1	145
23	STING-dependent translation inhibition restricts RNA virus replication. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E2058-E2067.	7.1	131
24	A unique strategy for mRNA cap methylation used by vesicular stomatitis virus. Proceedings of the National Academy of Sciences of the United States of America, 2006, 103, 8493-8498.	7.1	130
25	Infectious Lassa Virus, but Not Filoviruses, Is Restricted by BST-2/Tetherin. Journal of Virology, 2010, 84, 10569-10580.	3.4	125
26	Protein Expression Redirects Vesicular Stomatitis Virus RNA Synthesis to Cytoplasmic Inclusions. PLoS Pathogens, 2010, 6, e1000958.	4.7	125
27	A Conserved Motif in Region V of the Large Polymerase Proteins of Nonsegmented Negative-Sense RNA Viruses That Is Essential for mRNA Capping. Journal of Virology, 2008, 82, 775-784.	3.4	122
28	Defining the risk of SARS-CoV-2 variants on immune protection. Nature, 2022, 605, 640-652.	27.8	117
29	Amino Acid Residues within Conserved Domain VI of the Vesicular Stomatitis Virus Large Polymerase Protein Essential for mRNA Cap Methyltransferase Activity. Journal of Virology, 2005, 79, 13373-13384.	3.4	109
30	Systematic analysis of SARS-CoV-2 infection of an ACE2-negative human airway cell. Cell Reports, 2021, 36, 109364.	6.4	109
31	Antibody-mediated broad sarbecovirus neutralization through ACE2 molecular mimicry. Science, 2022, 375, 449-454.	12.6	108
32	Transcriptional control of the RNA-dependent RNA polymerase of vesicular stomatitis virus. Biochimica Et Biophysica Acta Gene Regulatory Mechanisms, 2002, 1577, 337-353.	2.4	100
33	Mechanism of membrane fusion induced by vesicular stomatitis virus G protein. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E28-E36.	7.1	98
34	Transcription and replication initiate at separate sites on the vesicular stomatitis virus genome. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 9178-9183.	7.1	92
35	Molecular architecture of the vesicular stomatitis virus RNA polymerase. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20075-20080.	7.1	91
36	Ribose 2â€²-O Methylation of the Vesicular Stomatitis Virus mRNA Cap Precedes and Facilitates Subsequent Guanine-N-7 Methylation by the Large Polymerase Protein. Journal of Virology, 2009, 83, 11043-11050.	3.4	88

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37	Regulation of RNA Synthesis by the Genomic Termini of Vesicular Stomatitis Virus: Identification of Distinct Sequences Essential for Transcription but Not Replication. Journal of Virology, 1999, 73, 297-306.	3.4	84
38	Uptake of Rabies Virus into Epithelial Cells by Clathrin-Mediated Endocytosis Depends upon Actin. Journal of Virology, 2013, 87, 11637-11647.	3.4	81
39	Mechanism of RNA synthesis initiation by the vesicular stomatitis virus polymerase. EMBO Journal, 2012, 31, 1320-1329.	7.8	79
40	A potently neutralizing SARS-CoV-2 antibody inhibits variants of concern by utilizing unique binding residues in a highly conserved epitope. Immunity, 2021, 54, 2399-2416.e6.	14.3	79
41	Arenavirus Z protein controls viral RNA synthesis by locking a polymeraseâ€"promoter complex. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 19743-19748.	7.1	77
42	Sulfated glycosaminoglycans and low-density lipoprotein receptor contribute to Clostridium difficile toxin A entry into cells. Nature Microbiology, 2019, 4, 1760-1769.	13.3	71
43	Multivalent designed proteins neutralize SARS-CoV-2 variants of concern and confer protection against infection in mice. Science Translational Medicine, 2022, 14, eabn1252.	12.4	68
44	Assembly of a functional Machupo virus polymerase complex. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 20069-20074.	7.1	64
45	The polymerase of negative-stranded RNA viruses. Current Opinion in Virology, 2013, 3, 103-110.	5.4	62
46	Structure of a rabies virus polymerase complex from electron cryo-microscopy. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 2099-2107.	7.1	58
47	Identification of a Minimal Size Requirement for Termination of Vesicular Stomatitis Virus mRNA: Implications for the Mechanism of Transcription. Journal of Virology, 2000, 74, 8268-8276.	3.4	57
48	Critical phosphoprotein elements that regulate polymerase architecture and function in vesicular stomatitis virus. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 14628-14633.	7.1	57
49	A novel class of TMPRSS2 inhibitors potently block SARS-CoV-2 and MERS-CoV viral entry and protect human epithelial lung cells. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	54
50	Recoding of the Vesicular Stomatitis Virus L Gene by Computer-Aided Design Provides a Live, Attenuated Vaccine Candidate. MBio, 2015, 6, .	4.1	52
51	A vaccine-induced public antibody protects against SARS-CoV-2 and emerging variants. Immunity, 2021, 54, 2159-2166.e6.	14.3	52
52	Structure of the Vesicular Stomatitis Virus L Protein in Complex with Its Phosphoprotein Cofactor. Cell Reports, 2020, 30, 53-60.e5.	6.4	51
53	Phenotypic lentivirus screens to identify functional single domain antibodies. Nature Microbiology, 2016, 1, 16080.	13.3	46
54	Lrp1 is a host entry factor for Rift Valley fever virus. Cell, 2021, 184, 5163-5178.e24.	28.9	46

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55	Rabies Internalizes into Primary Peripheral Neurons via Clathrin Coated Pits and Requires Fusion at the Cell Body. PLoS Pathogens, 2016, 12, e1005753.	4.7	45
56	Vesicular Stomatitis Virus mRNA Capping Machinery Requires Specific <i>cis</i> -Acting Signals in the RNA. Journal of Virology, 2007, 81, 11499-11506.	3.4	41
57	mRNA Cap Methylation Influences Pathogenesis of Vesicular Stomatitis Virus<i>In Vivo</i>. Journal of Virology, 2014, 88, 2913-2926.	3.4	41
58	The 5â€² Terminal Trailer Region of Vesicular Stomatitis Virus Contains a Position-Dependent <i>cis</i> -Acting Signal for Assembly of RNA into Infectious Particles. Journal of Virology, 1999, 73, 307-315.	3.4	39
59	Opposing Effects of Inhibiting Cap Addition and Cap Methylation on Polyadenylation during Vesicular Stomatitis Virus mRNA Synthesis. Journal of Virology, 2009, 83, 1930-1940.	3.4	37
60	Genetic Inactivation of COPI Coatomer Separately Inhibits Vesicular Stomatitis Virus Entry and Gene Expression. Journal of Virology, 2012, 86, 655-666.	3.4	37
61	A Freeze Frame View of Vesicular Stomatitis Virus Transcription Defines a Minimal Length of RNA for 5â€² Processing. PLoS Pathogens, 2011, 7, e1002073.	4.7	36
62	Niemann-Pick C1 (NPC1)/NPC1-like1 Chimeras Define Sequences Critical for NPC1â€™s Function as a Filovirus Entry Receptor. Viruses, 2012, 4, 2471-2484.	3.3	36
63	Vesicular Stomatitis Viruses Resistant to the Methylase Inhibitor Sinefungin Upregulate RNA Synthesis and Reveal Mutations That Affect mRNA Cap Methylation. Journal of Virology, 2007, 81, 4104-4115.	3.4	35
64	A Recombinant Vesicular Stomatitis Virus Bearing a Lethal Mutation in the Glycoprotein Gene Uncovers a Second Site Suppressor That Restores Fusion. Journal of Virology, 2011, 85, 8105-8115.	3.4	32
65	An <i>In Vitro</i> RNA Synthesis Assay for Rabies Virus Defines Ribonucleoprotein Interactions Critical for Polymerase Activity. Journal of Virology, 2017, 91, .	3.4	30
66	A Genome-Wide Small Interfering RNA Screen Identifies Host Factors Required for Vesicular Stomatitis Virus Infection. Journal of Virology, 2014, 88, 8355-8360.	3.4	29
67	Vesicular Stomatitis Virus Transcription Is Inhibited by TRIM69 in the Interferon-Induced Antiviral State. Journal of Virology, 2019, 93, .	3.4	28
68	Architecture and regulation of negative-strand viral enzymatic machinery. RNA Biology, 2012, 9, 941-948.	3.1	27
69	SARS-CoV-2 productively infects primary human immune system cells <i>in vitro</i> and in COVID-19 patients. Journal of Molecular Cell Biology, 2022, 14, .	3.3	26
70	Production of immunogenic West Nile virus-like particles using a herpes simplex virus 1 recombinant vector. Virology, 2016, 496, 186-193.	2.4	23
71	Infectious Entry Pathway Mediated by the Human Endogenous Retrovirus K Envelope Protein. Journal of Virology, 2016, 90, 3640-3649.	3.4	22
72	Global analysis of polysome-associated mRNA in vesicular stomatitis virus infected cells. PLoS Pathogens, 2019, 15, e1007875.	4.7	22

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73	A class II MHC-targeted vaccine elicits immunity against SARS-CoV-2 and its variants. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	22
74	Methylation of viral mRNA cap structures by PCIF1 attenuates the antiviral activity of interferon-Î². Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	21
75	Identification of Potent Ebola Virus Entry Inhibitors with Suitable Properties for in Vivo Studies. Journal of Medicinal Chemistry, 2018, 61, 6293-6307.	6.4	20
76	Human immunoglobulin from transchromosomic bovines hyperimmunized with SARS-CoV-2 spike antigen efficiently neutralizes viral variants. Human Vaccines and Immunotherapeutics, 2022, 18, 1-10.	3.3	20
77	Tracking the Fate of Genetically Distinct Vesicular Stomatitis Virus Matrix Proteins Highlights the Role for Late Domains in Assembly. Journal of Virology, 2015, 89, 11750-11760.	3.4	19
78	RNA ligands activate the Machupo virus polymerase and guide promoter usage. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 10518-10524.	7.1	19
79	Longitudinal Study after Sputnik V Vaccination Shows Durable SARS-CoV-2 Neutralizing Antibodies and Reduced Viral Variant Escape to Neutralization over Time. MBio, 2022, 13, e0344221.	4.1	19
80	Reconstruction of the cell entry pathway of an extinct virus. PLoS Pathogens, 2018, 14, e1007123.	4.7	18
81	Neutralizing Antibody and Soluble ACE2 Inhibition of a Replication-Competent VSV-SARS-CoV-2 and a Clinical Isolate of SARS-CoV-2. SSRN Electronic Journal, 2020, , 3606354.	0.4	16
82	Structural Properties of the C Terminus of Vesicular Stomatitis Virus N Protein Dictate N-RNA Complex Assembly, Encapsidation, and RNA Synthesis. Journal of Virology, 2012, 86, 8720-8729.	3.4	15
83	Sensitivity of the Polymerase of Vesicular Stomatitis Virus to 2â€² Substitutions in the Template and Nucleotide Triphosphate during Initiation and Elongation. Journal of Biological Chemistry, 2014, 289, 9961-9969.	3.4	14
84	Repeatable Population Dynamics among Vesicular Stomatitis Virus Lineages Evolved under High Co-infection. Frontiers in Microbiology, 2016, 7, 370.	3.5	14
85	SARS-CoV-2 Viral RNA Shedding for More Than 87 Days in an Individual With an Impaired CD8+ T Cell Response. Frontiers in Immunology, 2020, 11, 618402.	4.8	14
86	Structural mechanism of SARS-CoV-2 neutralization by two murine antibodies targeting the RBD. Cell Reports, 2021, 37, 109881.	6.4	14
87	JIB-04 Has Broad-Spectrum Antiviral Activity and Inhibits SARS-CoV-2 Replication and Coronavirus Pathogenesis. MBio, 2022, 13, e0337721.	4.1	14
88	Neutralizing Monoclonal Antibodies That Target the Spike Receptor Binding Domain Confer Fc Receptor-Independent Protection against SARS-CoV-2 Infection in Syrian Hamsters. MBio, 2021, 12, e0239521.	4.1	13
89	CD164 is a host factor for lymphocytic choriomeningitis virus entry. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2119676119.	7.1	12
90	Response to â€œNon-segmented negative-strand RNA virus RNA synthesis in vivoâ€. Virology, 2008, 371, 234-237.	2.4	10

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91	Structure and function of negative-strand RNA virus polymerase complexes. The Enzymes, 2021, 50, 21-78.	1.7	10
92	Vesicular Stomatitis Virus Chimeras Expressing the Oropouche Virus Glycoproteins Elicit Protective Immune Responses in Mice. MBio, 2021, 12, e0046321.	4.1	9
93	Detection of Bourbon Virus-Specific Serum Neutralizing Antibodies in Human Serum in Missouri, USA. MSphere, 2022, 7, .	2.9	9
94	Human, Nonhuman Primate, and Bat Cells Are Broadly Susceptible to Tibrovirus Particle Cell Entry. Frontiers in Microbiology, 2019, 10, 856.	3.5	8
95	Oligomerization of the Vesicular Stomatitis Virus Phosphoprotein Is Dispensable for mRNA Synthesis but Facilitates RNA Replication. Journal of Virology, 2020, 94, .	3.4	7
96	Isolation of Reconstructed Functional Ribonucleoprotein Complexes of Machupo Virus. Journal of Virology, 2021, 95, e0105421.	3.4	7
97	Structure of the Receptor Binding Domain of EnvP(b)1, an Endogenous Retroviral Envelope Protein Expressed in Human Tissues. MBio, 2020, 11, .	4.1	6
98	A broad-spectrum antiviral molecule, QL47, selectively inhibits eukaryotic translation. Journal of Biological Chemistry, 2020, 295, 1694-1703.	3.4	3
99	La protÃ©ine L des Mononegavirales. Virologie, 2012, 16, 258-268.	0.1	2
100	Biochemical and Structural Insights into Vesicular Stomatitis Virus Transcription. , 2011, , 127-147.		1