Stephen H Hughes

List of Publications by Year
in descending order

117 papers	10,309 citations	38660 50 h-index	35952 97 g-index
122 all docs	122 docs citations	122 times ranked	7896 citing authors

#	Article	IF	Citations
1	Reprogramming human T cell function and specificity with non-viral genome targeting. Nature, 2018, 559, 405-409.	13.7	630
2	Locations of Anti-AIDS Drug Binding Sites and Resistance Mutations in the Three-dimensional Structure of HIV-1 Reverse Transcriptase. Journal of Molecular Biology, 1994, 243, 369-387.	2.0	526
3	Roles of Conformational and Positional Adaptability in Structure-Based Design of TMC125-R165335 (Etravirine) and Related Non-nucleoside Reverse Transcriptase Inhibitors That Are Highly Potent and Effective against Wild-Type and Drug-Resistant HIV-1 Variants. Journal of Medicinal Chemistry, 2004, 47, 2550-2560.	2.9	507
4	Structure and Function of HIV-1 Reverse Transcriptase: Molecular Mechanisms of Polymerization and Inhibition. Journal of Molecular Biology, 2009, 385, 693-713.	2.0	426
5	Flexible Use of Nuclear Import Pathways by HIV-1. Cell Host and Microbe, 2010, 7, 221-233.	5.1	396
6	In Search of a Novel Anti-HIV Drug:Â Multidisciplinary Coordination in the Discovery of 4-[[4-[[4-[(1E)-2-Cyanoethenyl]-2,6-dimethylphenyl]amino]-2- pyrimidinyl]amino]benzonitrile (R278474,) Tj ETQq0 0 0 rgBT /Overlock 1	2.0	326
7	HIV-1 Reverse Transcription. Cold Spring Harbor Perspectives in Medicine, 2012, 2, a006882-a006882.	2.9	311
8	High-resolution structures of HIV-1 reverse transcriptase/TMC278 complexes: Strategic flexibility explains potency against resistance mutations. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 1466-1471.	3.3	310
9	Clonally expanded CD4 ⁺ T cells can produce infectious HIV-1 in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, 1883-1888.	3.3	302
10	Selective Excision of AZTMP by Drug-Resistant Human Immunodeficiency Virus Reverse Transcriptase. Journal of Virology, 2001, 75, 4832-4842.	1.5	241
11	Structural and Functional Analyses of the Second-Generation Integrase Strand Transfer Inhibitor Dolutegravir (S/GSK1349572). Molecular Pharmacology, 2011, 80, 565-572.	1.0	223
12	Crystal Structures of 8-Cl and 9-Cl TIBO Complexed with Wild-type HIV-1 RT and 8-Cl TIBO Complexed with the Tyr181Cys HIV-1 RT Drug-resistant Mutant. Journal of Molecular Biology, 1996, 264, 1085-1100.	2.0	214
13	Crystallography and the design of anti-AIDS drugs: conformational flexibility and positional adaptability are important in the design of non-nucleoside HIV-1 reverse transcriptase inhibitors. Progress in Biophysics and Molecular Biology, 2005, 88, 209-231.	1.4	210
14	Nature, Position, and Frequency of Mutations Made in a Single Cycle of HIV-1 Replication. Journal of Virology, 2010, 84, 9864-9878.	1.5	209
15	Proviruses with identical sequences comprise a large fraction of the replication-competent HIV reservoir. PLoS Pathogens, 2017, 13, e1006283.	2.1	209
16	Structures of HIV-1 reverse transcriptase with pre- and post-translocation AZTMP-terminated DNA. EMBO Journal, 2002, 21, 6614-6624.	3.5	185
17	The Lys103Asn mutation of HIV-1 RT: a novel mechanism of drug resistance. Journal of Molecular Biology, 2001, 309, 437-445.	2.0	175
18	Reverse-transcribed SARS-CoV-2 RNA can integrate into the genome of cultured human cells and can be expressed in patient-derived tissues. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	175

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19	Heterogeneity of genetic loci in chickens: analysis of endogenous viral and nonviral genes by cleavage of DNA with restriction endonucleases. Cell, 1979, 18, 347-359.	13.5	164
20	Human T-Cell Leukemia Virus Type 1 Integration Target Sites in the Human Genome: Comparison with Those of Other Retroviruses. Journal of Virology, 2007, 81, 6731-6741.	1.5	159
21	Structures of HIV-1 RTâ€“DNA complexes before and after incorporation of the anti-AIDS drug tenofovir. Nature Structural and Molecular Biology, 2004, 11, 469-474.	3.6	157
22	Multiple Origins of Virus Persistence during Natural Control of HIV Infection. Cell, 2016, 166, 1004-1015.	13.5	156
23	Capsid-CPSF6 Interaction Licenses Nuclear HIV-1 Trafficking to Sites of Viral DNA Integration. Cell Host and Microbe, 2018, 24, 392-404.e8.	5.1	141
24	Structure of HIV-1 Reverse Transcriptase with the Inhibitor Î²-Thujaplicinol Bound at the RNase H Active Site. Structure, 2009, 17, 1625-1635.	1.6	135
25	Taking aim at a moving target: designing drugs to inhibit drug-resistant HIV-1 reverse transcriptases. Current Opinion in Structural Biology, 2004, 14, 716-730.	2.6	130
26	Lens epithelium-derived growth factor fusion proteins redirect HIV-1 DNA integration. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 3135-3140.	3.3	129
27	The role of steric hindrance in 3TC resistance of human immunodeficiency virus type-1 reverse transcriptase 1 1Edited by A. R. Fersht. Journal of Molecular Biology, 2000, 300, 403-418.	2.0	122
28	Replication of Phenotypically Mixed Human Immunodeficiency Virus Type 1 Virions Containing Catalytically Active and Catalytically Inactive Reverse Transcriptase. Journal of Virology, 2001, 75, 6537-6546.	1.5	116
29	Structural basis of HIV-1 resistance to AZT by excision. Nature Structural and Molecular Biology, 2010, 17, 1202-1209.	3.6	115
30	Differential Effects of Human Immunodeficiency Virus Type 1 Capsid and Cellular Factors Nucleoporin 153 and LEDGF/p75 on the Efficiency and Specificity of Viral DNA Integration. Journal of Virology, 2013, 87, 648-658.	1.5	108
31	Mutations in the RNase H domain of HIV-1 reverse transcriptase affect the initiation of DNA synthesis and the specificity of RNase H cleavage in vivo. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 9515-9520.	3.3	101
32	Crystal engineering of HIV-1 reverse transcriptase for structure-based drug design. Nucleic Acids Research, 2008, 36, 5083-5092.	6.5	91
33	LEDGF/p75 interacts with mRNA splicing factors and targets HIV-1 integration to highly spliced genes. Genes and Development, 2015, 29, 2287-2297.	2.7	90
34	Nucleoside Analog Resistance Caused by Insertions in the Fingers of Human Immunodeficiency Virus Type 1 Reverse Transcriptase Involves ATP-Mediated Excision. Journal of Virology, 2002, 76, 9143-9151.	1.5	89
35	Efficacies of Cabotegravir and Bictegravir against drug-resistant HIV-1 integrase mutants. Retrovirology, 2018, 15, 37.	0.9	89
36	Enhancers Are Major Targets for Murine Leukemia Virus Vector Integration. Journal of Virology, 2014, 88, 4504-4513.	1.5	88

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37	The M184V Mutation Reduces the Selective Excision of Zidovudine 5â€²-Monophosphate (AZTMP) by the Reverse Transcriptase of Human Immunodeficiency Virus Type 1. Journal of Virology, 2002, 76, 3248-3256.	1.5	85
38	HIV-1 viremia not suppressible by antiretroviral therapy can originate from large T cell clones producing infectious virus. Journal of Clinical Investigation, 2020, 130, 5847-5857.	3.9	85
39	Human Immunodeficiency Virus Type 1 Capsid Mutation N74D Alters Cyclophilin A Dependence and Impairs Macrophage Infection. Journal of Virology, 2012, 86, 4708-4714.	1.5	84
40	HIV-1 in lymph nodes is maintained by cellular proliferation during antiretroviral therapy. Journal of Clinical Investigation, 2019, 129, 4629-4642.	3.9	84
41	Crystal Structures of Clinically Relevant Lys103Asn/Tyr181Cys Double Mutant HIV-1 Reverse Transcriptase in Complexes with ATP and Non-nucleoside Inhibitor HBY 097. Journal of Molecular Biology, 2007, 365, 77-89.	2.0	83
42	Structural Basis for the Role of the K65R Mutation in HIV-1 Reverse Transcriptase Polymerization, Excision Antagonism, and Tenofovir Resistance. Journal of Biological Chemistry, 2009, 284, 35092-35100.	1.6	81
43	Combined HIV-1 sequence and integration site analysis informs viral dynamics and allows reconstruction of replicating viral ancestors. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 25891-25899.	3.3	78
44	Structural basis for strand-transfer inhibitor binding to HIV intasomes. Science, 2020, 367, 810-814.	6.0	74
45	Altering the RNase H Primer Grip of Human Immunodeficiency Virus Reverse Transcriptase Modifies Cleavage Specificity. Biochemistry, 2002, 41, 4856-4865.	1.2	69
46	Clonal expansion of CAR T cells harboring lentivector integration in the CBL gene following anti-CD22 CAR T-cell therapy. Blood Advances, 2019, 3, 2317-2322.	2.5	69
47	Why Do HIV-1 and HIV-2 Use Different Pathways to Develop AZT Resistance?. PLoS Pathogens, 2006, 2, e10.	2.1	62
48	What Integration Sites Tell Us about HIV Persistence. Cell Host and Microbe, 2016, 19, 588-598.	5.1	61
49	Immunologic and proteolytic analysis of HIV-1 reverse transcriptase structure. Virology, 1990, 175, 456-464.	1.1	60
50	Clones of infected cells arise early in HIV-infected individuals. JCI Insight, 2019, 4, .	2.3	59
51	HIV-1 reverse transcriptase connection subdomain mutations reduce template RNA degradation and enhance AZT excision. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 10943-10948.	3.3	57
52	2,3-Dihydro-6,7-dihydroxy-1H-isoindol-1-one-Based HIV-1 Integrase Inhibitors. Journal of Medicinal Chemistry, 2008, 51, 251-259.	2.9	48
53	A Homology Model of HIV-1 Integrase and Analysis of Mutations Designed to Test the Model. Journal of Molecular Biology, 2013, 425, 2133-2146.	2.0	46
54	Mutations in HIV-1 Reverse Transcriptase Affect the Errors Made in a Single Cycle of Viral Replication. Journal of Virology, 2014, 88, 7589-7601.	1.5	46

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55	HIV Infected T Cells Can Proliferate in vivo Without Inducing Expression of the Integrated Provirus. Frontiers in Microbiology, 2019, 10, 2204.	1.5	46
56	Activities, Crystal Structures, and Molecular Dynamics of Dihydro-1H-isoindole Derivatives, Inhibitors of HIV-1 Integrase. ACS Chemical Biology, 2013, 8, 209-217.	1.6	44
57	Structure-Guided Optimization of HIV Integrase Strand Transfer Inhibitors. Journal of Medicinal Chemistry, 2017, 60, 7315-7332.	2.9	44
58	HIV-1 and HIV-2 Reverse Transcriptases: Different Mechanisms of Resistance to Nucleoside Reverse Transcriptase Inhibitors. Journal of Virology, 2012, 86, 5885-5894.	1.5	42
59	Reverse Transcription of Retroviruses and LTR Retrotransposons. Microbiology Spectrum, 2015, 3, MDNA3-0027-2014.	1.2	42
60	Rilpivirine and Doravirine Have Complementary Efficacies Against NNRTI-Resistant HIV-1 Mutants. Journal of Acquired Immune Deficiency Syndromes (1999), 2016, 72, 485-491.	0.9	42
61	Integrase Strand Transfer Inhibitors Are Effective Anti-HIV Drugs. Viruses, 2021, 13, 205.	1.5	42
62	Molecular Dynamics Approaches Estimate the Binding Energy of HIV-1 Integrase Inhibitors and Correlate with In Vitro Activity. Antimicrobial Agents and Chemotherapy, 2012, 56, 411-419.	1.4	39
63	Bicyclic 1-Hydroxy-2-oxo-1,2-dihydropyridine-3-carboxamide-Containing HIV-1 Integrase Inhibitors Having High Antiviral Potency against Cells Harboring Raltegravir-Resistant Integrase Mutants. Journal of Medicinal Chemistry, 2014, 57, 1573-1582.	2.9	38
64	Retrovirus Integration Database (RID): a public database for retroviral insertion sites into host genomes. Retrovirology, 2016, 13, 47.	0.9	38
65	Integration in oncogenes plays only a minor role in determining the in vivo distribution of HIV integration sites before or during suppressive antiretroviral therapy. PLoS Pathogens, 2021, 17, e1009141.	2.1	36
66	In Vitro Analysis of Human Immunodeficiency Virus Type 1 Minus-Strand Strong-Stop DNA Synthesis and Genomic RNA Processing. Journal of Virology, 2001, 75, 672-686.	1.5	35
67	4-Amino-1-hydroxy-2-oxo-1,8-naphthyridine-Containing Compounds Having High Potency against Raltegravir-Resistant Integrase Mutants of HIV-1. Journal of Medicinal Chemistry, 2014, 57, 5190-5202.	2.9	35
68	HIV-1 Integrase Strand Transfer Inhibitors with Reduced Susceptibility to Drug Resistant Mutant Integrases. ACS Chemical Biology, 2016, 11, 1074-1081.	1.6	35
69	Effects of Amino Acid Substitutions at Position 115 on the Fidelity of Human Immunodeficiency Virus Type 1 Reverse Transcriptase. Journal of Virology, 2000, 74, 6494-6500.	1.5	34
70	MK-0536 Inhibits HIV-1 Integrases Resistant to Raltegravir. Antimicrobial Agents and Chemotherapy, 2011, 55, 5127-5133.	1.4	33
71	Effects of Mutations in the G Tract of the Human Immunodeficiency Virus Type 1 Polypurine Tract on Virus Replication and RNase H Cleavage. Journal of Virology, 2004, 78, 13315-13324.	1.5	32
72	Dynamic Shifts in the HIV Proviral Landscape During Long Term Combination Antiretroviral Therapy: Implications for Persistence and Control of HIV Infections. Viruses, 2020, 12, 136.	1.5	32

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73	Effects of the Î”67 Complex of Mutations in Human Immunodeficiency Virus Type 1 Reverse Transcriptase on Nucleoside Analog Excision. Journal of Virology, 2004, 78, 9987-9997.	1.5	31
74	In vitro fidelity of the prototype primate foamy virus (PFV) RT compared to HIV-1 RT. Virology, 2007, 367, 253-264.	1.1	30
75	Developing and Evaluating Inhibitors against the RNase H Active Site of HIV-1 Reverse Transcriptase. Journal of Virology, 2018, 92, .	1.5	30
76	Characterization of the Polymerase and RNase H Activities of Human Foamy Virus Reverse Transcriptase. Journal of Virology, 2004, 78, 6112-6121.	1.5	29
77	A comparison of the ability of rilpivirine (TMC278) and selected analogues to inhibit clinically relevant HIV-1 reverse transcriptase mutants. Retrovirology, 2012, 9, 99.	0.9	29
78	Clonal expansion of SIV-infected cells in macaques on antiretroviral therapy is similar to that of HIV-infected cells in humans. PLoS Pathogens, 2019, 15, e1007869.	2.1	29
79	Mutations in the U5 Sequences Adjacent to the Primer Binding Site Do Not Affect tRNA Cleavage by Rous Sarcoma Virus RNase H but Do Cause Aberrant Integrations In Vivo. Journal of Virology, 2006, 80, 451-459.	1.5	27
80	Treatment with suboptimal doses of raltegravir leads to aberrant HIV-1 integrations. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 14747-14752.	3.3	26
81	Bicyclic Hydroxyâ€1 Hâ€pyrrolopyridineâ€trione Containing HIVâ€1 Integrase Inhibitors. Chemical Biology and Drug Design, 2012, 79, 157-165.	1.5	25
82	Development of tricyclic hydroxy-1H-pyrrolopyridine-trione containing HIV-1 integrase inhibitors. Bioorganic and Medicinal Chemistry Letters, 2011, 21, 2986-2990.	1.0	22
83	HIV-1 Integrase Inhibitors That Are Broadly Effective against Drug-Resistant Mutants. Antimicrobial Agents and Chemotherapy, 2018, 62, .	1.4	21
84	An analytical pipeline for identifying and mapping the integration sites of HIV and other retroviruses. BMC Genomics, 2020, 21, 216.	1.2	21
85	HIV-1 Integrase Inhibitors That Are Active against Drug-Resistant Integrase Mutants. Antimicrobial Agents and Chemotherapy, 2020, 64, .	1.4	21
86	Mutations in the Thumb Allow Human Immunodeficiency Virus Type 1 Reverse Transcriptase To Be Cleaved by Protease in Virions. Journal of Virology, 2009, 83, 12336-12344.	1.5	20
87	6,7-Dihydroxy-1-oxoisoindoline-4-sulfonamide-containing HIV-1 integrase inhibitors. Bioorganic and Medicinal Chemistry Letters, 2012, 22, 7309-7313.	1.0	20
88	Alternate Polypurine Tracts Affect Rous Sarcoma Virus Integration In Vivo. Journal of Virology, 2006, 80, 10281-10284.	1.5	17
89	Insertional activation of STAT3 and LCK by HIV-1 proviruses in T cell lymphomas. Science Advances, 2021, 7, eabi8795.	4.7	17
90	Selectivity for strand-transfer over 3â€²-processing and susceptibility to clinical resistance of HIV-1 integrase inhibitors are driven by key enzymeâ€“DNA interactions in the active site. Nucleic Acids Research, 2016, 44, 6896-6906.	6.5	16

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91	HIV-1 Integrase Inhibitors with Modifications That Affect Their Potencies against Drug Resistant Integrase Mutants. ACS Infectious Diseases, 2021, 7, 1469-1482.	1.8	14
92	Rapid Screening of HIV Reverse Transcriptase and Integrase Inhibitors. Journal of Visualized Experiments, 2014, , .	0.2	13
93	Mutations in the U5 Region Adjacent to the Primer Binding Site Affect tRNA Cleavage by Human Immunodeficiency Virus Type 1 Reverse Transcriptase In Vivo. Journal of Virology, 2008, 82, 719-727.	1.5	12
94	Mouse papillomavirus type 1 (MmuPV1) DNA is frequently integrated in benign tumors by microhomology-mediated end-joining. PLoS Pathogens, 2021, 17, e1009812.	2.1	12
95	Rous Sarcoma Virus (RSV) Integration In Vivo: a CA Dinucleotide Is Not Required in U3, and RSV Linear DNA Does Not Autointegrate. Journal of Virology, 2008, 82, 503-512.	1.5	11
96	Structural basis for the inhibition of HTLV-1 integration inferred from cryo-EM deltaretroviral intasome structures. Nature Communications, 2021, 12, 4996.	5.8	11
97	Clonal Expansion of Infected CD4+ T Cells in People Living with HIV. Viruses, 2021, 13, 2078.	1.5	11
98	Rilpivirine analogs potently inhibit drug-resistant HIV-1 mutants. Retrovirology, 2016, 13, 11.	0.9	10
99	Tracking HIV-1-Infected Cell Clones Using Integration Site-Specific qPCR. Viruses, 2021, 13, 1235.	1.5	10
100	Response to Parry et al.: Strong evidence for genomic integration of SARS-CoV-2 sequences and expression in patient tissues. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	9
101	Dâ€(+)â€isoâ€Methanocarbathymidine: a Highâ€Affinity Substrate for Herpes Simplex Virusâ€…1 Thymidine Kinase. ChemMedChem, 2008, 3, 1129-1134.	1.6	8
102	Analysis of the Zidovudine Resistance Mutations T215Y, M41L, and L210W in HIV-1 Reverse Transcriptase. Antimicrobial Agents and Chemotherapy, 2015, 59, 7184-7196.	1.4	8
103	Drug resistant integrase mutants cause aberrant HIV integrations. Retrovirology, 2016, 13, 71.	0.9	8
104	Structureâ€based nonâ€nucleoside inhibitor design: Developing inhibitors that are effective against resistant mutants. Chemical Biology and Drug Design, 2021, 97, 4-17.	1.5	8
105	INSTIs and NNRTIs Potently Inhibit HIV-1 Polypurine Tract Mutants in a Single Round Infection Assay. Viruses, 2021, 13, 2501.	1.5	8
106	The effects of RNase H inhibitors and nevirapine on the susceptibility of HIV-1 to AZT and 3TC. Virology, 2011, 419, 64-71.	1.1	7
107	Mutations in HIV-1 reverse transcriptase cause misfolding and miscleavage by the viral protease. Virology, 2013, 444, 241-249.	1.1	7
108	Early Emergence and Long-Term Persistence of HIV-Infected T-Cell Clones in Children. MBio, 2021, 12, .	1.8	7

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109	Reply to Briggs et al.: Genomic integration and expression of SARS-CoV-2 sequences can explain prolonged or recurrent viral RNA detection. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	6
110	Integration of Rous Sarcoma Virus DNA: a CA Dinucleotide Is Not Required for Integration of the U3 End of Viral DNA. Journal of Virology, 2008, 82, 11480-11483.	1.5	5
111	Crystal Structure of a Retroviral Polyprotein: Prototype Foamy Virus Protease-Reverse Transcriptase (PR-RT). Viruses, 2021, 13, 1495.	1.5	4
112	Reverse Transcription of Retroviruses and LTR Retrotransposons. , 0, , 1051-1077.		4
113	Two Coselected Distal Mutations in HIV-1 Reverse Transcriptase (RT) Alter Susceptibility to Nonnucleoside RT Inhibitors and Nucleoside Analogs. Journal of Virology, 2019, 93, .	1.5	2
114	Mutations in human immunodeficiency virus type 1 reverse transcriptase that make it sensitive to degradation by the viral protease in virions are selected against in patients. Virology, 2015, 484, 127-135.	1.1	1
115	A9â€ƒA method to obtain full-length HIV proviral sequences and their sites of integration. Virus Evolution, 2019, 5, .	2.2	1
116	A Combination of Amino Acid Mutations Leads to Resistance to Multiple Nucleoside Analogs in Reverse Transcriptases from HIV-1 Subtypes B and C. Antimicrobial Agents and Chemotherapy, 2022, 66, AAC0150021.	1.4	1
117	A12â€ƒModeling residual HIV replication and the emergence of drug resistance on ART. Virus Evolution, 2019, 5, .	2.2	0