Eckard Wimmer

List of Publications by Year
in descending order

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119 papers	9,642 citations	66343 42 h-index	76900 74 g-index
122 all docs	122 docs citations	122 times ranked	5366 citing authors

#	Article	IF	Citations
1	Primary structure, gene organization and polypeptide expression of poliovirus RNA. Nature, 1981, 291, 547-553.	27.8	1,057
2	Chemical Synthesis of Poliovirus cDNA: Generation of Infectious Virus in the Absence of Natural Template. Science, 2002, 297, 1016-1018.	12.6	882
3	GENETICS OF POLIOVIRUS. Annual Review of Genetics, 1993, 27, 353-436.	7.6	597
4	Virus Attenuation by Genome-Scale Changes in Codon Pair Bias. Science, 2008, 320, 1784-1787.	12.6	580
5	Phosphatidylserine Vesicles Enable Efficient En Bloc Transmission of Enteroviruses. Cell, 2015, 160, 619-630.	28.9	384
6	Protein-primed RNA synthesis by purified poliovirus RNA polymerase. Nature, 1998, 393, 280-284.	27.8	361
7	Reduction of the Rate of Poliovirus Protein Synthesis through Large-Scale Codon Deoptimization Causes Attenuation of Viral Virulence by Lowering Specific Infectivity. Journal of Virology, 2006, 80, 9687-9696.	3.4	336
8	The location of the polio genome protein in viral RNAs and its implication for RNA synthesis. Nature, 1977, 268, 208-213.	27.8	320
9	Priming for and induction of anti-poliovirus neutralizing antibodies by synthetic peptides. Nature, 1983, 304, 699-703.	27.8	269
10	Identification of an RNA Hairpin in Poliovirus RNA That Serves as the Primary Template in the In Vitro Uridylylation of VPg. Journal of Virology, 2000, 74, 10359-10370.	3.4	264
11	Live attenuated influenza virus vaccines by computer-aided rational design. Nature Biotechnology, 2010, 28, 723-726.	17.5	248
12	Genome-linked proteins of viruses. Cell, 1982, 28, 199-201.	28.9	213
13	Picornavirus Morphogenesis. Microbiology and Molecular Biology Reviews, 2014, 78, 418-437.	6.6	180
14	Characterization of the Nucleoside Triphosphatase Activity of Poliovirus Protein 2C Reveals a Mechanism by Which Guanidine Inhibits Poliovirus Replication. Journal of Biological Chemistry, 1999, 274, 6992-7001.	3.4	156
15	Antigenic variation and resistance to neutralization in poliovirus type 1. Science, 1985, 229, 1090-1093.	12.6	152
16	Cis-acting RNA elements in human and animal plus-strand RNA viruses. Biochimica Et Biophysica Acta - Gene Regulatory Mechanisms, 2009, 1789, 495-517.	1.9	150
17	Genetic and Biochemical Studies of Polioviruscis-Acting Replication Element cre in Relation to VPg Uridylylation. Journal of Virology, 2000, 74, 10371-10380.	3.4	147
18	Cardioviral internal ribosomal entry site is functional in a genetically engineered dicistronic poliovirus. Nature, 1992, 356, 255-257.	27.8	137

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19	Synthetic viruses: a new opportunity to understand and prevent viral disease. Nature Biotechnology, 2009, 27, 1163-1172.	17.5	129
20	Biochemical Studies on Poliovirus Polypeptide 2C: Evidence for ATPase Activity. Virology, 1994, 199, 176-187.	2.4	117
21	Complete Protein Linkage Map of Poliovirus P3 Proteins: Interaction of Polymerase 3D ^{pol} with VPg and with Genetic Variants of 3AB. Journal of Virology, 1998, 72, 6732-6741.	3.4	117
22	Attenuation of human respiratory syncytial virus by genome-scale codon-pair deoptimization. Proceedings of the National Academy of Sciences of the United States of America, 2014, 111, 13169-13174.	7.1	113
23	Direct Interaction between Two Viral Proteins, the Nonstructural Protein 2CATPase and the Capsid Protein VP3, Is Required for Enterovirus Morphogenesis. PLoS Pathogens, 2010, 6, e1001066.	4.7	111
24	Large-scale recoding of an arbovirus genome to rebalance its insect versus mammalian preference. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, 4749-4754.	7.1	93
25	Biochemical and Genetic Studies of the Initiation of Human Rhinovirus 2 RNA Replication: Identification of a cis -Replicating Element in the Coding Sequence of 2A pro. Journal of Virology, 2001, 75, 10979-10990.	3.4	91
26	Deliberate reduction of hemagglutinin and neuraminidase expression of influenza virus leads to an ultraprotective live vaccine in mice. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 9481-9486.	7.1	91
27	Studies of a Putative Amphipathic Helix in the N-Terminus of Poliovirus Protein 2C. Virology, 1994, 199, 188-199.	2.4	87
28	Scalable live-attenuated SARS-CoV-2 vaccine candidate demonstrates preclinical safety and efficacy. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	82
29	A Cysteine-Rich Motif in Poliovirus Protein 2C ^{ATPase} Is Involved in RNA Replication and Binds Zinc In Vitro. Journal of Virology, 2000, 74, 334-343.	3.4	78
30	Structural and functional characterization of the coxsackievirus B3 CRE(2C): role of CRE(2C) in negative- and positive-strand RNA synthesis. Journal of General Virology, 2006, 87, 103-113.	2.9	78
31	Initiation of protein-primed picornavirus RNA synthesis. Virus Research, 2015, 206, 12-26.	2.2	78
32	Functional Dissection of a Poliovirus cis -Acting Replication Element [PV- cre (2C)]: Analysis of Single- and Dual- cre Viral Genomes and Proteins That Bind Specifically to PV- cre RNA. Journal of Virology, 2003, 77, 5152-5166.	3.4	77
33	A â€œSlide-backâ€•Mechanism for the Initiation of Protein-primed RNA Synthesis by the RNA Polymerase of Poliovirus. Journal of Biological Chemistry, 2003, 278, 43951-43960.	3.4	76
34	Vaccination against polio should not be stopped. Nature Reviews Microbiology, 2007, 5, 952-958.	28.6	75
35	Sequence Requirements for Viral RNA Replication and VPg Uridylylation Directed by the Internal cis-Acting Replication Element (cre) of Human Rhinovirus Type 14. Journal of Virology, 2002, 76, 7485-7494.	3.4	72
36	Replication of Poliovirus Requires Binding of the Poly(rC) Binding Protein to the Cloverleaf as Well as to the Adjacent C-Rich Spacer Sequence between the Cloverleaf and the Internal Ribosomal Entry Site. Journal of Virology, 2007, 81, 10017-10028.	3.4	72

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37	Oncolytic Treatment and Cure of Neuroblastoma by a Novel Attenuated Poliovirus in a Novel Poliovirus-Susceptible Animal Model. Cancer Research, 2007, 67, 2857-2864.	0.9	68
38	The testâ€tube synthesis of a chemical called poliovirus. EMBO Reports, 2006, 7, S3-9.	4.5	67
39	Membrane Topography of the Hydrophobic Anchor Sequence of Poliovirus 3A and 3AB Proteins and the Functional Effect of 3A/3AB Membrane Association upon RNA Replication. Biochemistry, 2007, 46, 5185-5199.	2.5	65
40	Proteolytic Processing in the Replication of Polio and Related Viruses. Nature Biotechnology, 1986, 4, 33-42.	17.5	59
41	Evaluation of the attenuation, immunogenicity, and efficacy of a live virus vaccine generated by codon-pair bias de-optimization of the 2009 pandemic H1N1 influenza virus, in ferrets. Vaccine, 2016, 34, 563-570.	3.8	59
42	Mutation of a Single Conserved Nucleotide between the Cloverleaf and Internal Ribosome Entry Site Attenuates Poliovirus Neurovirulence. Journal of Virology, 2005, 79, 14235-14243.	3.4	53
43	Alanine Scanning of Poliovirus 2C ^{ATPase} Reveals New Genetic Evidence that Capsid Protein/2C ^{ATPase} Interactions Are Essential for Morphogenesis. Journal of Virology, 2012, 86, 9964-9975.	3.4	46
44	Possible Unifying Mechanism of Picornavirus Genome Replication. , 0, , 225-246.		46
45	The C-terminal residues of poliovirus proteinase 2Apro are critical for viral RNA replication but not for cis- or trans-proteolytic cleavage. Journal of General Virology, 2001, 82, 397-408.	2.9	43
46	An Interaction between Glutathione and the Capsid Is Required for the Morphogenesis of C-Cluster Enteroviruses. PLoS Pathogens, 2014, 10, e1004052.	4.7	42
47	Genetic stability of genome-scale deoptimized RNA virus vaccine candidates under selective pressure. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E386-E395.	7.1	41
48	The structure of poliovirus replicative form. Nucleic Acids Research, 1980, 8, 1217-1230.	14.5	40
49	Dengue and Zika Virus 5â€² Untranslated Regions Harbor Internal Ribosomal Entry Site Functions. MBio, 2019, 10, .	4.1	40
50	An electron microscope study of the proteins attached to polio virus RNA and its replicative form (RF). Nucleic Acids Research, 1978, 5, 4711-4724.	14.5	39
51	Protein-linked RNA of poliovirus is competent to form an initiation complex of translation in vitro. Nature, 1980, 287, 600-603.	27.8	39
52	Binding of Glutathione to Enterovirus Capsids Is Essential for Virion Morphogenesis. PLoS Pathogens, 2014, 10, e1004039.	4.7	37
53	The fate of VPg during in vitro translation of poliovirus RNA. FEBS Letters, 1981, 132, 219-223.	2.8	35
54	Complete protein linkage map between the P2 and P3 non-structural proteins of poliovirus. Journal of General Virology, 2007, 88, 2259-2267.	2.9	34

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55	Analysis of the cloverleaf element in a human rhinovirus type 14/poliovirus chimera: correlation of subdomain D structure, ternary protein complex formation and virus replication. Journal of General Virology, 2003, 84, 2203-2216.	2.9	30
56	Processing Determinants and Functions of Cleavage Products of Picornavirus Polyproteins. , 0, , 185-197.		30
57	Synthetic Poliovirus and Other Designer Viruses: What Have We Learned from Them?. Annual Review of Microbiology, 2011, 65, 583-609.	7.3	28
58	Biochemical and Genetic Studies of the Initiation of Human Rhinovirus 2 RNA Replication: Purification and Enzymatic Analysis of the RNA-Dependent RNA Polymerase 3D pol. Journal of Virology, 2001, 75, 10969-10978.	3.4	27
59	Tyrosine 3 of Poliovirus Terminal Peptide VPg(3B) Has an Essential Function in RNA Replication in the Context of Its Precursor Protein, 3AB. Journal of Virology, 2007, 81, 5669-5684.	3.4	27
60	Cell-free synthesis of poliovirus: 14S subunits are the key intermediates in the encapsidation of poliovirus RNA. Journal of General Virology, 2000, 81, 2751-2754.	2.9	26
61	Reply to Simmonds et al.: Codon pair and dinucleotide bias have not been functionally distinguished. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E3635-6.	7.1	25
62	Stimulation of poliovirus RNA synthesis and virus maturation in a HeLa cell-free in vitro translation-RNA replication system by viral protein 3CDpro. Virology Journal, 2005, 2, 86.	3.4	23
63	A C-terminal, cysteine-rich site in poliovirus 2CATPase is required for morphogenesis. Journal of General Virology, 2014, 95, 1255-1265.	2.9	23
64	A Single Amino Acid Substitution in Poliovirus Nonstructural Protein 2C ^{ATPase} Causes Conditional Defects in Encapsidation and Uncoating. Journal of Virology, 2016, 90, 6174-6186.	3.4	23
65	Polio eradication at the crossroads. The Lancet Global Health, 2021, 9, e1172-e1175.	6.3	23
66	Cold-Adapted Viral Attenuation (CAVA): Highly Temperature Sensitive Polioviruses as Novel Vaccine Strains for a Next Generation Inactivated Poliovirus Vaccine. PLoS Pathogens, 2016, 12, e1005483.	4.7	23
67	Poliovirus antigenic sites and vaccines. Nature, 1984, 308, 19-19.	27.8	21
68	Limits of variation, specific infectivity, and genome packaging of massively recoded poliovirus genomes. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E8731-E8740.	7.1	21
69	Enterovirus Genetics. , 2014, , 25-72.		19
70	Picornavirus Genome: an Overview. , 0, , 125-148.		17
71	Structure and Function of Picornavirus Proteinases. , 0, , 199-212.		17
72	Production of high titer attenuated poliovirus strains on the serum-free PER.C6Â® cell culture platform for the generation of safe and affordable next generation IPV. Vaccine, 2015, 33, 6611-6616.	3.8	16

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73	Picornavirus Proteinase-Mediated Shutoff of Host Cell Translation: Direct Cleavage of a Cellular Initiation Factor. , 0, , 299-311.		14
74	Poliovirus Vaccines: Molecular Biology and Immune Response. , 0, , 381-390.		14
75	Optimization of the Codon Pair Usage of Human Respiratory Syncytial Virus Paradoxically Resulted in Reduced Viral Replication In Vivo and Reduced Immunogenicity. Journal of Virology, 2020, 94, .	3.4	13
76	Initiation of Translation of Picornavirus RNAs: Structure and Function of the Internal Ribosome Entry Site. , 0, , 157-169.		13
77	Molecular and Biological Basis of Picornavirus Taxonomy. , 0, , 15-24.		13
78	Role of Cellular Structures in Viral RNA Replication. , 0, , 247-253.		13
79	Extensive genomic recoding by codon-pair deoptimization selective for mammals is a flexible tool to generate attenuated vaccine candidates for dengue virus 2. Virology, 2019, 537, 237-245.	2.4	12
80	Poliovirus and its cellular receptor: a molecular genetic dissection of a virus/receptor affinity interaction. , 1998, 11, 2-9.		11
81	Poliomyelitis in transgenic mice expressing CD155 under the control of the Tage4 promoter after oral and parenteral poliovirus inoculation. Journal of General Virology, 2014, 95, 1668-1676.	2.9	11
82	Determinants of Poliovirus Pathogenesis. , 0, , 367-379.		11
83	Extensive recoding of dengue virus type 2 specifically reduces replication in primate cells without gain-of-function in Aedes aegypti mosquitoes. PLoS ONE, 2018, 13, e0198303.	2.5	10
84	Picornavirus Genetics: an Overview. , 0, , 269-284.		9
85	Poliovirus RNA-Dependent RNA Polymerase (3Dpol): Structure, Function, and Mechanism. , 0, , 255-267.		8
86	Error Frequencies of Picornavirus RNA Polymerases: Evolutionary Implications for Virus Populations. , 0, , 285-298.		8
87	Pathogenesis of Theiler's Murine Encephalomyelitis Virus-Induced Disease. , 0, , 427-435.		8
88	Brunenders: a partially attenuated historic poliovirus type I vaccine strain. Journal of General Virology, 2015, 96, 2614-2622.	2.9	7
89	Persistent Infections by Picornaviruses. , 0, , 437-448.		7
90	Global Eradication of Poliovirus:History and Rationale. , 0, , 471-480.		7

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91	Enterovirus Structure and Assembly. , 0, , 155-174.		7
92	The Aphtho- and Cardiovirus â€œPrimaryâ€•2A/2B Polyprotein â€œCleavageâ€• , 2014, , 213-223.		6
93	Rescue of codon-pair deoptimized respiratory syncytial virus by the emergence of genomes with very large internal deletions that complemented replication. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	6
94	Proteins Involved in the Function of Picornavirus Internal Ribosomal Entry Sites. , 0, , 171-183.		6
95	Effects of Viral Replication on Cellular Membrane Metabolism and Function. , 0, , 337-354.		6
96	The Mechanism of Poliovirus Eradication. , 0, , 481-491.		6
97	Cellular Receptors of Picornaviruses: an Overview. , 0, , 59-70.		6
98	Poliovirus RNA Replication and Genetic Complementation in Cell-Free Reactions. , 2014, , 461-469.		5
99	Eradicating polio: A balancing act. Science, 2016, 351, 348-348.	12.6	5
100	Alignments and Comparative Profiles of Picornavirus Genera. , 0, , 149-Pxxiv.		5
101	Poliovirus-Mediated Shutoff of Host Translation: an Indirect Effect. , 0, , 313-320.		5
102	Effects of Picornavirus Proteinases on Host Cell Transcription. , 0, , 321-335.		5
103	Antibody Interactions with Rhinovirus. , 0, , 39-49.		5
104	The relation of prophylactic inoculations to the onset of poliomyelitis. , 1999, 9, 219-226.		4
105	Foot-and-Mouth Disease Virus-Receptor Interactions: Role in Pathogenesis and Tissue Culture Adaptation. , 0, , 115-123.		4
106	Picornavirus Structure Overview. , 0, , 25-38.		4
107	Pathogenesis of Coxsackievirus B Infections. , 0, , 405-413.		4
108	Poliovirus Receptors and Cell Entry. , 0, , 71-83.		4

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109	Interaction of Major Group Rhinoviruses with Their Cellular Receptor, ICAM-1. , 0, , 85-91.		4
110	Clinical Significance, Diagnosis, and Treatment of Picornavirus Infections. , 0, , 355-365.		3
111	History of Poliomyelitis and Poliomyelitis Research. , 2014, , 1-14.		2
112	Receptors for Coxsackieviruses and Echoviruses. , 0, , 107-113.		2
113	Immunology of the Coxsackieviruses. , 0, , 391-403.		2
114	Human Rhinovirus Minor Group Receptors. , 0, , 93-105.		1
115	Antigenic Variation in Foot-and-Mouth Disease Virus. , 0, , 51-58.		1
116	Organization of the poliovirus genome and the sites for proteolytic processing. Biochemical Society Transactions, 1984, 12, 711-711.	3.4	0
117	The Making of a Picornavirus Genome. , 0, , 33-55.		0
118	Cell-Free Genetics of Poliovirus. , 0, , 449-460.		0
119	Hepatitis A Virus Pathogenesis and Attenuation. , 0, , 415-425.		0