Guangshun Wang

List of Publications by Year
in descending order

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99 papers	8,447 citations	57631 44 h-index	46693 89 g-index
100 all docs	100 docs citations	100 times ranked	8336 citing authors

#	Article	IF	Citations
1	APD3: the antimicrobial peptide database as a tool for research and education. Nucleic Acids Research, 2016, 44, D1087-D1093.	6.5	1,537
2	APD2: the updated antimicrobial peptide database and its application in peptide design. Nucleic Acids Research, 2009, 37, D933-D937.	6.5	816
3	APD: the Antimicrobial Peptide Database. Nucleic Acids Research, 2004, 32, 590D-592.	6.5	651
4	Human Antimicrobial Peptides and Proteins. Pharmaceuticals, 2014, 7, 545-594.	1.7	402
5	Structures of Human Host Defense Cathelicidin LL-37 and Its Smallest Antimicrobial Peptide KR-12 in Lipid Micelles. Journal of Biological Chemistry, 2008, 283, 32637-32643.	1.6	371
6	Solution Structures of Human LL-37 Fragments and NMR-Based Identification of a Minimal Membrane-Targeting Antimicrobial and Anticancer Region. Journal of the American Chemical Society, 2006, 128, 5776-5785.	6.6	252
7	Host defense antimicrobial peptides as antibiotics: design and application strategies. Current Opinion in Chemical Biology, 2017, 38, 87-96.	2.8	249
8	Antimicrobial Peptides in 2014. Pharmaceuticals, 2015, 8, 123-150.	1.7	168
9	Ab Initio Design of Potent Anti-MRSA Peptides Based on Database Filtering Technology. Journal of the American Chemical Society, 2012, 134, 12426-12429.	6.6	147
10	High-quality 3D structures shine light on antibacterial, anti-biofilm and antiviral activities of human cathelicidin LL-37 and its fragments. Biochimica Et Biophysica Acta - Biomembranes, 2014, 1838, 2160-2172.	1.4	142
11	Improved Methods for Classification, Prediction, and Design of Antimicrobial Peptides. Methods in Molecular Biology, 2015, 1268, 43-66.	0.4	136
12	Dissolvable Microneedles Coupled with Nanofiber Dressings Eradicate Biofilms via Effectively Delivering a Database-Designed Antimicrobial Peptide. ACS Nano, 2020, 14, 11775-11786.	7.3	129
13	Transformation of Human Cathelicidin LL-37 into Selective, Stable, and Potent Antimicrobial Compounds. ACS Chemical Biology, 2014, 9, 1997-2002.	1.6	110
14	Anti-Human Immunodeficiency Virus Type 1 Activities of Antimicrobial Peptides Derived from Human and Bovine Cathelicidins. Antimicrobial Agents and Chemotherapy, 2008, 52, 3438-3440.	1.4	109
15	Emerging roles of the host defense peptide LLâ€37 in human cancer and its potential therapeutic applications. International Journal of Cancer, 2010, 127, 1741-1747.	2.3	109
16	Identification of Novel Human Immunodeficiency Virus Type 1-Inhibitory Peptides Based on the Antimicrobial Peptide Database. Antimicrobial Agents and Chemotherapy, 2010, 54, 1343-1346.	1.4	108
17	Post-Translational Modifications of Natural Antimicrobial Peptides and Strategies for Peptide Engineering. Current Biotechnology, 2012, 1, 72-79.	0.2	103
18	Design of Antimicrobial Peptides: Progress Made with Human Cathelicidin LL-37. Advances in Experimental Medicine and Biology, 2019, 1117, 215-240.	0.8	91

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19	Database-Guided Discovery of Potent Peptides to Combat HIV-1 or Superbugs. Pharmaceuticals, 2013, 6, 728-758.	1.7	90
20	Low cationicity is important for systemic in vivo efficacy of database-derived peptides against drug-resistant Gram-positive pathogens. Proceedings of the National Academy of Sciences of the United States of America, 2019, 116, 13517-13522.	3.3	89
21	Decoding the Functional Roles of Cationic Side Chains of the Major Antimicrobial Region of Human Cathelicidin LL-37. Antimicrobial Agents and Chemotherapy, 2012, 56, 845-856.	1.4	88
22	Correlation of Three-dimensional Structures with the Antibacterial Activity of a Group of Peptides Designed Based on a Nontoxic Bacterial Membrane Anchor. Journal of Biological Chemistry, 2005, 280, 5803-5811.	1.6	83
23	Lipid Segregation Explains Selective Toxicity of a Series of Fragments Derived from the Human Cathelicidin LL-37. Antimicrobial Agents and Chemotherapy, 2009, 53, 3705-3714.	1.4	81
24	Database screening and in vivo efficacy of antimicrobial peptides against methicillin-resistant Staphylococcus aureus USA300. International Journal of Antimicrobial Agents, 2012, 39, 402-406.	1.1	81
25	Cathelicidin-Derived Antimicrobial Peptides Inhibit Zika Virus Through Direct Inactivation and Interferon Pathway. Frontiers in Immunology, 2018, 9, 722.	2.2	79
26	Antiviral Activity of the Human Cathelicidin, LL-37, and Derived Peptides on Seasonal and Pandemic Influenza A Viruses. PLoS ONE, 2015, 10, e0124706.	1.1	72
27	Anti-Staphylococcal Biofilm Effects of Human Cathelicidin Peptides. ACS Medicinal Chemistry Letters, 2016, 7, 117-121.	1.3	68
28	Design and surface immobilization of short anti-biofilm peptides. Acta Biomaterialia, 2017, 49, 316-328.	4.1	66
29	The Importance of Amino Acid Composition in Natural AMPs: An Evolutional, Structural, and Functional Perspective. Frontiers in Immunology, 2012, 3, 221.	2.2	63
30	Cloning, expression, isotope labeling, and purification of human antimicrobial peptide LL-37 in Escherichia coli for NMR studies. Protein Expression and Purification, 2006, 47, 498-505.	0.6	62
31	Lipid clustering by three homologous arginine-rich antimicrobial peptides is insensitive to amino acid arrangement and induced secondary structure. Biochimica Et Biophysica Acta - Biomembranes, 2010, 1798, 1272-1280.	1.4	62
32	Solution Structure of the Phosphoryl Transfer Complex between the Cytoplasmic A Domain of the Mannitol Transporter IIMannitol and HPr of the Escherichia coliPhosphotransferase System. Journal of Biological Chemistry, 2002, 277, 42289-42298.	1.6	61
33	Solution Structure of the Phosphoryl Transfer Complex between the Signal-transducing Protein IIAGlucose and the Cytoplasmic Domain of the Glucose Transporter IICBGlucose of the Escherichia coli Glucose Phosphotransferase System. Journal of Biological Chemistry, 2003, 278, 25191-25206.	1.6	61
34	Two distinct amphipathic peptide antibiotics with systemic efficacy. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 19446-19454.	3.3	61
35	NMR of Membrane-Associated Peptides and Proteins. Current Protein and Peptide Science, 2008, 9, 50-69.	0.7	58
36	Conformation of human serum apolipoprotein A-I(166â€“185) in the presence of sodium dodecyl sulfate or dodecylphosphocholine by 1H-NMR and CD. Evidence for specific peptide-SDS interactions. Lipids and Lipid Metabolism, 1996, 1301, 174-184.	2.6	56

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37	Structure, Dynamics, and Antimicrobial and Immune Modulatory Activities of Human LL-23 and Its Single-Residue Variants Mutated on the Basis of Homologous Primate Cathelicidins. Biochemistry, 2012, 51, 653-664.	1.2	55
38	Individual and Combined Effects of Engineered Peptides and Antibiotics on Pseudomonas aeruginosa Biofilms. Pharmaceuticals, 2017, 10, 58.	1.7	55
39	The Helix-Hinge-Helix Structural Motif in Human Apolipoprotein A-I Determined by NMR Spectroscopy,. Biochemistry, 1997, 36, 13657-13666.	1.2	53
40	Conformations of Human Apolipoprotein E(263â˜286) and E(267â˜289) in Aqueous Solutions of Sodium Dodecyl Sulfate by CD and1H NMRâ€,â€¡. Biochemistry, 1996, 35, 10358-10366.	1.2	52
41	Structural location determines functional roles of the basic amino acids of KR-12, the smallest antimicrobial peptide from human cathelicidin LL-37. RSC Advances, 2013, 3, 19560.	1.7	52
42	The antimicrobial peptide database provides a platform for decoding the design principles of naturally occurring antimicrobial peptides. Protein Science, 2020, 29, 8-18.	3.1	52
43	Solution structure of the N-terminal amphitropic domain ofEscherichia coliglucose-specific enzyme IIA in membrane-mimetic micelles. Protein Science, 2003, 12, 1087-1096.	3.1	47
44	Titanium surfaces immobilized with the major antimicrobial fragment FK-16 of human cathelicidin LL-37 are potent against multiple antibiotic-resistant bacteria. Biofouling, 2017, 33, 544-555.	0.8	47
45	NMR studies of aurein 1.2 analogs. Biochimica Et Biophysica Acta - Biomembranes, 2006, 1758, 1203-1214.	1.4	46
46	Antibacterial, antifungal, anticancer activities and structural bioinformatics analysis of six naturally occurring temporins. Peptides, 2018, 106, 9-20.	1.2	46
47	Determination of solution structure and lipid micelle location of an engineered membrane peptide by using one NMR experiment and one sample. Biochimica Et Biophysica Acta - Biomembranes, 2007, 1768, 3271-3281.	1.4	44
48	A novel method for purifying recombinant human host defense cathelicidin LL-37 by utilizing its inherent property of aggregation. Protein Expression and Purification, 2007, 54, 157-165.	0.6	43
49	Nanofiber Dressings Topically Delivering Molecularly Engineered Human Cathelicidin Peptides for the Treatment of Biofilms in Chronic Wounds. Molecular Pharmaceutics, 2019, 16, 2011-2020.	2.3	42
50	Potential Use of Antimicrobial Peptides as Vaginal Spermicides/Microbicides. Pharmaceuticals, 2016, 9, 13.	1.7	41
51	Insights into Antimicrobial Peptides from Spiders and Scorpions. Protein and Peptide Letters, 2016, 23, 707-721.	0.4	41
52	Engineered Human Cathelicidin Antimicrobial Peptides Inhibit Ebola Virus Infection. IScience, 2020, 23, 100999.	1.9	40
53	A Novel Membrane Anchor Function for the N-terminal Amphipathic Sequence of the Signal-transducing Protein IIAGlucose of the Escherichia coli Phosphotransferase System. Journal of Biological Chemistry, 2000, 275, 39811-39814.	1.6	39
54	Bioinformatic Analysis of 1000 Amphibian Antimicrobial Peptides Uncovers Multiple Length-Dependent Correlations for Peptide Design and Prediction. Antibiotics, 2020, 9, 491.	1.5	36

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55	Amino Acid Composition Determines Peptide Activity Spectrum and Hotâ€Spotâ€Based Design of Merecidin. Advanced Biology, 2018, 2, 1700259.	3.0	35
56	The evolution of the antimicrobial peptide database over 18â€‰years: Milestones and new features. Protein Science, 2022, 31, 92-106.	3.1	34
57	The Ï€ Configuration of the WWW Motif of a Short Trp-Rich Peptide Is Critical for Targeting Bacterial Membranes, Disrupting Preformed Biofilms, and Killing Methicillin-Resistant Staphylococcus aureus. Biochemistry, 2017, 56, 4039-4043.	1.2	30
58	Simultaneous Delivery of Multiple Antimicrobial Agents by Biphasic Scaffolds for Effective Treatment of Wound Biofilms. Advanced Healthcare Materials, 2021, 10, e2100135.	3.9	29
59	Structural Biology of Antimicrobial Peptides by NMR Spectroscopy. Current Organic Chemistry, 2006, 10, 569-581.	0.9	28
60	Small lipopeptides possess anti-biofilm capability comparable to daptomycin and vancomycin. RSC Advances, 2015, 5, 59758-59769.	1.7	28
61	A Common Interface on Histidine-containing Phosphocarrier Protein for Interaction with Its Partner Proteins. Journal of Biological Chemistry, 2000, 275, 16401-16403.	1.6	27
62	Tool Developments for Structure-Function Studies of Host Defense Peptides. Protein and Peptide Letters, 2007, 14, 57-69.	0.4	27
63	Arginine-lysine positional swap of the LL-37 peptides reveals evolutional advantages of the native sequence and leads to bacterial probes. Biochimica Et Biophysica Acta - Biomembranes, 2017, 1859, 1350-1361.	1.4	27
64	Modulation of antimicrobial potency of human cathelicidin peptides against the ESKAPE pathogens and in vivo efficacy in a murine catheter-associated biofilm model. Biochimica Et Biophysica Acta - Biomembranes, 2019, 1861, 1592-1602.	1.4	27
65	Parallel PTS systems. Archives of Biochemistry and Biophysics, 2006, 453, 101-107.	1.4	24
66	Short and Robust Anti-Infective Lipopeptides Engineered Based on the Minimal Antimicrobial Peptide KR12 of Human LL-37. ACS Infectious Diseases, 2021, 7, 1795-1808.	1.8	24
67	Natural antimicrobial peptides as a source of new antiviral agents. Journal of General Virology, 2021, 102, .	1.3	22
68	Machine Learning Prediction of Antimicrobial Peptides. Methods in Molecular Biology, 2022, 2405, 1-37.	0.4	22
69	Identifying the Critical Domain of LL-37 Involved in Mediating Neutrophil Activation in the Presence of Influenza Virus: Functional and Structural Analysis. PLoS ONE, 2015, 10, e0133454.	1.1	21
70	Collectins, H-ficolin and LL-37 reduce influence viral replication in human monocytes and modulate virus-induced cytokine production. Innate Immunity, 2017, 23, 77-88.	1.1	21
71	Natural antimicrobial peptides as promising anti-HIV candidates. Current Topics in Peptide and Protein Research, 2012, 13, 93-110.	1.0	21
72	Unifying the classification of antimicrobial peptides in the antimicrobial peptide database. Methods in Enzymology, 2022, 663, 1-18.	0.4	20

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73	NMR characterization of the Escherichia coli nitrogen regulatory protein IIANtr in solution and interaction with its partner protein, NPr. Protein Science, 2005, 14, 1082-1090.	3.1	19
74	How the lipid-free structure of the N-terminal truncated human apoA-I converts to the lipid-bound form: new insights from NMR and X-ray structural comparison. FEBS Letters, 2002, 529, 157-161.	1.3	17
75	Membrane-Active Epithelial Keratin 6A Fragments (KAMPs) Are Unique Human Antimicrobial Peptides with a Non-Î±Î² Structure. Frontiers in Microbiology, 2016, 7, 1799.	1.5	16
76	Structure of the NPr:EINNtr Complex: Mechanism for Specificity in Paralogous Phosphotransferase Systems. Structure, 2016, 24, 2127-2137.	1.6	16
77	Solution structure of NPr, a bacterial signal-transducing protein that controls the phosphorylation state of the potassium transporter-regulating protein IIANtr. Amino Acids, 2008, 35, 531-539.	1.2	15
78	Resistome of Staphylococcus aureus in Response to Human Cathelicidin LL-37 and Its Engineered Antimicrobial Peptides. ACS Infectious Diseases, 2020, 6, 1866-1881.	1.8	15
79	Shortâ€'chain diacyl phosphatidylglycerols: which one to choose for the NMR structural determination of a membraneâ€'associated peptide fromEscherichia coli?. Spectroscopy, 2004, 18, 257-264.	0.8	14
80	Antimicrobial peptide LL-37 and its truncated forms, GI-20 and GF-17, exert spermicidal effects and microbicidal activity against Neisseria gonorrhoeae. Human Reproduction, 2018, 33, 2175-2183.	0.4	14
81	Structure, dynamics and mapping of membrane-binding residues of micelle-bound antimicrobial peptides by natural abundance 13C NMR spectroscopy. Biochimica Et Biophysica Acta - Biomembranes, 2010, 1798, 114-121.	1.4	12
82	Small molecule mimics of DFTamP1, a database designed anti-Staphylococcal peptide. Bioorganic and Medicinal Chemistry, 2017, 25, 864-869.	1.4	12
83	NMR Studies of a Model Antimicrobial Peptide in the Micelles of SDS, Dodecylphosphocholine, or Dioctanoylphosphatidylglycerol. The Open Magnetic Resonance Journal, 2008, 1, 9-15.	0.5	12
84	Effects of detergent alkyl chain length and chemical structure on the properties of a micelle-bound bacterial membrane targeting peptide. Analytical Biochemistry, 2004, 331, 33-39.	1.1	11
85	Structure and Activity of a Selective Antibiofilm Peptide SK-24 Derived from the NMR Structure of Human Cathelicidin LL-37. Pharmaceuticals, 2021, 14, 1245.	1.7	11
86	On-resin cleavage of bacterially expressed fusion proteins for purification of active recombinant peptides SK-29, KR-20, LL-29, and LL-23 from human sweat or skin. Protein Expression and Purification, 2007, 55, 395-405.	0.6	10
87	Interaction of the core fragments of the LL-37 host defense peptide with actin. RSC Advances, 2015, 5, 9361-9367.	1.7	9
88	Membrane activity of two short Trp-rich amphipathic peptides. Biochimica Et Biophysica Acta - Biomembranes, 2020, 1862, 183280.	1.4	8
89	Sequence Permutation Generates Peptides with Different Antimicrobial and Antibiofilm Activities. Pharmaceuticals, 2020, 13, 271.	1.7	8
90	Spotlight on the Selected New Antimicrobial Innate Immune Peptides Discovered During 2015-2019. Current Topics in Medicinal Chemistry, 2020, 20, 2984-2998.	1.0	7

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91	Database Resources Dedicated to Antimicrobial Peptides. , 2015, , 365-384.		6
92	1H, 15N, and 13C chemical shift assignments of the Escherichia coli nitrogen regulatory phosphocarrier IIA(Ntr). Journal of Biomolecular NMR, 2003, 27, 401-402.	1.6	3
93	Improved Database Filtering Technology Enables More Efficient Ab Initio Design of Potent Peptides against Ebola Viruses. Pharmaceuticals, 2022, 15, 521.	1.7	2
94	Linearized teixobactin is inactive and after sequence enhancement, kills methicillinâ€resistant Staphylococcus aureus via a different mechanism. Peptide Science, 2022, 114, .	1.0	1
95	Structural Analysis of Amphibian, Insect, and Plant Host Defense Peptides Inspires the Design of Novel Therapeutic Molecules. , 2016, , 229-252.		0
96	Mechanism of Action of Tethered Antimicrobial Peptides. , 2018, , 559-566.		0
97	Designing novel antimicrobial peptides against multi-drug resistant bacteria. , 2021, , .		0
98	Anti-tumor effect of a series of engineered peptides in N-MYC amplified Neuroblastoma.. Journal of Clinical Oncology, 2015, 33, e21013-e21013.	0.8	0
99	Realistic and critical review of the state of systemic antimicrobial peptides. ADMET and DMPK, 2022, 10, 91-105.	1.1	0