

# Guangshun Wang

## List of Publications by Year in descending order

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99  
papers

8,447  
citations

57758

44  
h-index

46799

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. <i>Nucleic Acids Research</i> , 2016, 44, D1087-D1093.	14.5	1,537
2	APD2: the updated antimicrobial peptide database and its application in peptide design. <i>Nucleic Acids Research</i> , 2009, 37, D933-D937.	14.5	816
3	APD: the Antimicrobial Peptide Database. <i>Nucleic Acids Research</i> , 2004, 32, 590D-592.	14.5	651
4	Human Antimicrobial Peptides and Proteins. <i>Pharmaceuticals</i> , 2014, 7, 545-594.	3.8	402
5	Structures of Human Host Defense Cathelicidin LL-37 and Its Smallest Antimicrobial Peptide KR-12 in Lipid Micelles. <i>Journal of Biological Chemistry</i> , 2008, 283, 32637-32643.	3.4	371
6	Solution Structures of Human LL-37 Fragments and NMR-Based Identification of a Minimal Membrane-Targeting Antimicrobial and Anticancer Region. <i>Journal of the American Chemical Society</i> , 2006, 128, 5776-5785.	13.7	252
7	Host defense antimicrobial peptides as antibiotics: design and application strategies. <i>Current Opinion in Chemical Biology</i> , 2017, 38, 87-96.	6.1	249
8	Antimicrobial Peptides in 2014. <i>Pharmaceuticals</i> , 2015, 8, 123-150.	3.8	168
9	Design of Potent Anti-MRSA Peptides Based on Database Filtering Technology. <i>Journal of the American Chemical Society</i> , 2012, 134, 12426-12429.	13.7	147
10	High-quality 3D structures shine light on antibacterial, anti-biofilm and antiviral activities of human cathelicidin LL-37 and its fragments. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2014, 1838, 2160-2172.	2.6	142
11	Improved Methods for Classification, Prediction, and Design of Antimicrobial Peptides. <i>Methods in Molecular Biology</i> , 2015, 1268, 43-66.	0.9	136
12	Dissolvable Microneedles Coupled with Nanofiber Dressings Eradicate Biofilms via Effectively Delivering a Database-Designed Antimicrobial Peptide. <i>ACS Nano</i> , 2020, 14, 11775-11786.	14.6	129
13	Transformation of Human Cathelicidin LL-37 into Selective, Stable, and Potent Antimicrobial Compounds. <i>ACS Chemical Biology</i> , 2014, 9, 1997-2002.	3.4	110
14	Anti-Human Immunodeficiency Virus Type 1 Activities of Antimicrobial Peptides Derived from Human and Bovine Cathelicidins. <i>Antimicrobial Agents and Chemotherapy</i> , 2008, 52, 3438-3440.	3.2	109
15	Emerging roles of the host defense peptide LL-37 in human cancer and its potential therapeutic applications. <i>International Journal of Cancer</i> , 2010, 127, 1741-1747.	5.1	109
16	Identification of Novel Human Immunodeficiency Virus Type 1-Inhibitory Peptides Based on the Antimicrobial Peptide Database. <i>Antimicrobial Agents and Chemotherapy</i> , 2010, 54, 1343-1346.	3.2	108
17	Post-Translational Modifications of Natural Antimicrobial Peptides and Strategies for Peptide Engineering. <i>Current Biotechnology</i> , 2012, 1, 72-79.	0.4	103
18	Design of Antimicrobial Peptides: Progress Made with Human Cathelicidin LL-37. <i>Advances in Experimental Medicine and Biology</i> , 2019, 1117, 215-240.	1.6	91

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19	Database-Guided Discovery of Potent Peptides to Combat HIV-1 or Superbugs. <i>Pharmaceuticals</i> , 2013, 6, 728-758.	3.8	90
20	Low cationicity is important for systemic in vivo efficacy of database-derived peptides against drug-resistant Gram-positive pathogens. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2019, 116, 13517-13522.	7.1	89
21	Decoding the Functional Roles of Cationic Side Chains of the Major Antimicrobial Region of Human Cathelicidin LL-37. <i>Antimicrobial Agents and Chemotherapy</i> , 2012, 56, 845-856.	3.2	88
22	Correlation of Three-dimensional Structures with the Antibacterial Activity of a Group of Peptides Designed Based on a Nontoxic Bacterial Membrane Anchor. <i>Journal of Biological Chemistry</i> , 2005, 280, 5803-5811.	3.4	83
23	Lipid Segregation Explains Selective Toxicity of a Series of Fragments Derived from the Human Cathelicidin LL-37. <i>Antimicrobial Agents and Chemotherapy</i> , 2009, 53, 3705-3714.	3.2	81
24	Database screening and in vivo efficacy of antimicrobial peptides against methicillin-resistant <i>Staphylococcus aureus</i> USA300. <i>International Journal of Antimicrobial Agents</i> , 2012, 39, 402-406.	2.5	81
25	Cathelicidin-Derived Antimicrobial Peptides Inhibit Zika Virus Through Direct Inactivation and Interferon Pathway. <i>Frontiers in Immunology</i> , 2018, 9, 722.	4.8	79
26	Antiviral Activity of the Human Cathelicidin, LL-37, and Derived Peptides on Seasonal and Pandemic Influenza A Viruses. <i>PLoS ONE</i> , 2015, 10, e0124706.	2.5	72
27	Anti-Staphylococcal Biofilm Effects of Human Cathelicidin Peptides. <i>ACS Medicinal Chemistry Letters</i> , 2016, 7, 117-121.	2.8	68
28	Design and surface immobilization of short anti-biofilm peptides. <i>Acta Biomaterialia</i> , 2017, 49, 316-328.	8.3	66
29	The Importance of Amino Acid Composition in Natural AMPs: An Evolutional, Structural, and Functional Perspective. <i>Frontiers in Immunology</i> , 2012, 3, 221.	4.8	63
30	Cloning, expression, isotope labeling, and purification of human antimicrobial peptide LL-37 in <i>Escherichia coli</i> for NMR studies. <i>Protein Expression and Purification</i> , 2006, 47, 498-505.	1.3	62
31	Lipid clustering by three homologous arginine-rich antimicrobial peptides is insensitive to amino acid arrangement and induced secondary structure. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2010, 1798, 1272-1280.	2.6	62
32	Solution Structure of the Phosphoryl Transfer Complex between the Cytoplasmic A Domain of the Mannitol Transporter IIMannitol and HPr of the <i>Escherichia coli</i> Phosphotransferase System. <i>Journal of Biological Chemistry</i> , 2002, 277, 42289-42298.	3.4	61
33	Solution Structure of the Phosphoryl Transfer Complex between the Signal-transducing Protein IIGlucose and the Cytoplasmic Domain of the Glucose Transporter IICGlucose of the <i>Escherichia coli</i> Glucose Phosphotransferase System. <i>Journal of Biological Chemistry</i> , 2003, 278, 25191-25206.	3.4	61
34	Two distinct amphipathic peptide antibiotics with systemic efficacy. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2020, 117, 19446-19454.	7.1	61
35	NMR of Membrane-Associated Peptides and Proteins. <i>Current Protein and Peptide Science</i> , 2008, 9, 50-69.	1.4	58
36	Conformation of human serum apolipoprotein A-I(166-185) in the presence of sodium dodecyl sulfate or dodecylphosphocholine by <sup>1</sup> H-NMR and CD. Evidence for specific peptide-SDS interactions. <i>Lipids and Lipid Metabolism</i> , 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. <i>Biochemistry</i> , 2012, 51, 653-664.	2.5	55
38	Individual and Combined Effects of Engineered Peptides and Antibiotics on <i>Pseudomonas aeruginosa</i> Biofilms. <i>Pharmaceuticals</i> , 2017, 10, 58.	3.8	55
39	The Helix-Hinge-Helix Structural Motif in Human Apolipoprotein A-I Determined by NMR Spectroscopy. <i>Biochemistry</i> , 1997, 36, 13657-13666.	2.5	53
40	Conformations of Human Apolipoprotein E(263~286) and E(267~289) in Aqueous Solutions of Sodium Dodecyl Sulfate by CD and $^1\text{H}$ NMR. <i>Biochemistry</i> , 1996, 35, 10358-10366.	2.5	52
41	Structural location determines functional roles of the basic amino acids of KR-12, the smallest antimicrobial peptide from human cathelicidin LL-37. <i>RSC Advances</i> , 2013, 3, 19560.	3.6	52
42	The antimicrobial peptide database provides a platform for decoding the design principles of naturally occurring antimicrobial peptides. <i>Protein Science</i> , 2020, 29, 8-18.	7.6	52
43	Solution structure of the N-terminal amphitropic domain of <i>Escherichia coli</i> glucose-specific enzyme IIA in membrane-mimetic micelles. <i>Protein Science</i> , 2003, 12, 1087-1096.	7.6	47
44	Titanium surfaces immobilized with the major antimicrobial fragment FK-16 of human cathelicidin LL-37 are potent against multiple antibiotic-resistant bacteria. <i>Biofouling</i> , 2017, 33, 544-555.	2.2	47
45	NMR studies of aurein 1.2 analogs. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2006, 1758, 1203-1214.	2.6	46
46	Antibacterial, antifungal, anticancer activities and structural bioinformatics analysis of six naturally occurring temporins. <i>Peptides</i> , 2018, 106, 9-20.	2.4	46
47	Determination of solution structure and lipid micelle location of an engineered membrane peptide by using one NMR experiment and one sample. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2007, 1768, 3271-3281.	2.6	44
48	A novel method for purifying recombinant human host defense cathelicidin LL-37 by utilizing its inherent property of aggregation. <i>Protein Expression and Purification</i> , 2007, 54, 157-165.	1.3	43
49	Nanofiber Dressings Topically Delivering Molecularly Engineered Human Cathelicidin Peptides for the Treatment of Biofilms in Chronic Wounds. <i>Molecular Pharmaceutics</i> , 2019, 16, 2011-2020.	4.6	42
50	Potential Use of Antimicrobial Peptides as Vaginal Spermicides/Microbicides. <i>Pharmaceuticals</i> , 2016, 9, 13.	3.8	41
51	Insights into Antimicrobial Peptides from Spiders and Scorpions. <i>Protein and Peptide Letters</i> , 2016, 23, 707-721.	0.9	41
52	Engineered Human Cathelicidin Antimicrobial Peptides Inhibit Ebola Virus Infection. <i>IScience</i> , 2020, 23, 100999.	4.1	40
53	A Novel Membrane Anchor Function for the N-terminal Amphipathic Sequence of the Signal-transducing Protein IIA <sub>Glucose</sub> of the <i>Escherichia coli</i> Phosphotransferase System. <i>Journal of Biological Chemistry</i> , 2000, 275, 39811-39814.	3.4	39
54	Bioinformatic Analysis of 1000 Amphibian Antimicrobial Peptides Uncovers Multiple Length-Dependent Correlations for Peptide Design and Prediction. <i>Antibiotics</i> , 2020, 9, 491.	3.7	36

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55	Amino Acid Composition Determines Peptide Activity Spectrum and Hot-Spot-Based Design of Mercidin. <i>Advanced Biology</i> , 2018, 2, 1700259.	3.0	35
56	The evolution of the antimicrobial peptide database over 18 years: Milestones and new features. <i>Protein Science</i> , 2022, 31, 92-106.	7.6	34
57	The $\beta$ Configuration of the WWW Motif of a Short Trp-Rich Peptide Is Critical for Targeting Bacterial Membranes, Disrupting Preformed Biofilms, and Killing Methicillin-Resistant <i>Staphylococcus aureus</i> . <i>Biochemistry</i> , 2017, 56, 4039-4043.	2.5	30
58	Simultaneous Delivery of Multiple Antimicrobial Agents by Biphasic Scaffolds for Effective Treatment of Wound Biofilms. <i>Advanced Healthcare Materials</i> , 2021, 10, e2100135.	7.6	29
59	Structural Biology of Antimicrobial Peptides by NMR Spectroscopy. <i>Current Organic Chemistry</i> , 2006, 10, 569-581.	1.6	28
60	Small lipopeptides possess anti-biofilm capability comparable to daptomycin and vancomycin. <i>RSC Advances</i> , 2015, 5, 59758-59769.	3.6	28
61	A Common Interface on Histidine-containing Phosphocarrier Protein for Interaction with Its Partner Proteins. <i>Journal of Biological Chemistry</i> , 2000, 275, 16401-16403.	3.4	27
62	Tool Developments for Structure-Function Studies of Host Defense Peptides. <i>Protein and Peptide Letters</i> , 2007, 14, 57-69.	0.9	27
63	Arginine-lysine positional swap of the LL-37 peptides reveals evolutionary advantages of the native sequence and leads to bacterial probes. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2017, 1859, 1350-1361.	2.6	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. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2019, 1861, 1592-1602.	2.6	27
65	Parallel PTS systems. <i>Archives of Biochemistry and Biophysics</i> , 2006, 453, 101-107.	3.0	24
66	Short and Robust Anti-Infective Lipopeptides Engineered Based on the Minimal Antimicrobial Peptide KR12 of Human LL-37. <i>ACS Infectious Diseases</i> , 2021, 7, 1795-1808.	3.8	24
67	Natural antimicrobial peptides as a source of new antiviral agents. <i>Journal of General Virology</i> , 2021, 102, .	2.9	22
68	Machine Learning Prediction of Antimicrobial Peptides. <i>Methods in Molecular Biology</i> , 2022, 2405, 1-37.	0.9	22
69	Identifying the Critical Domain of LL-37 Involved in Mediating Neutrophil Activation in the Presence of Influenza Virus: Functional and Structural Analysis. <i>PLoS ONE</i> , 2015, 10, e0133454.	2.5	21
70	Collectins, H-ficolin and LL-37 reduce influenza viral replication in human monocytes and modulate virus-induced cytokine production. <i>Innate Immunity</i> , 2017, 23, 77-88.	2.4	21
71	Natural antimicrobial peptides as promising anti-HIV candidates. <i>Current Topics in Peptide and Protein Research</i> , 2012, 13, 93-110.	1.0	21
72	Unifying the classification of antimicrobial peptides in the antimicrobial peptide database. <i>Methods in Enzymology</i> , 2022, 663, 1-18.	1.0	20

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73	NMR characterization of the Escherichia coli nitrogen regulatory protein IANtr in solution and interaction with its partner protein, NPr. <i>Protein Science</i> , 2005, 14, 1082-1090.	7.6	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. <i>FEBS Letters</i> , 2002, 529, 157-161.	2.8	17
75	Membrane-Active Epithelial Keratin 6A Fragments (KAMPs) Are Unique Human Antimicrobial Peptides with a Non- $\alpha$ Structure. <i>Frontiers in Microbiology</i> , 2016, 7, 1799.	3.5	16
76	Structure of the NPr:EINNtr Complex: Mechanism for Specificity in Paralogous Phosphotransferase Systems. <i>Structure</i> , 2016, 24, 2127-2137.	3.3	16
77	Solution structure of NPr, a bacterial signal-transducing protein that controls the phosphorylation state of the potassium transporter-regulating protein IANtr. <i>Amino Acids</i> , 2008, 35, 531-539.	2.7	15
78	Resistome of <i>Staphylococcus aureus</i> in Response to Human Cathelicidin LL-37 and Its Engineered Antimicrobial Peptides. <i>ACS Infectious Diseases</i> , 2020, 6, 1866-1881.	3.8	15
79	Short-chain diacyl phosphatidylglycerols: which one to choose for the NMR structural determination of a membrane-associated peptide from <i>Escherichia coli</i> ? <i>Spectroscopy</i> , 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 <i>Neisseria gonorrhoeae</i> . <i>Human Reproduction</i> , 2018, 33, 2175-2183.	0.9	14
81	Structure, dynamics and mapping of membrane-binding residues of micelle-bound antimicrobial peptides by natural abundance $^{13}\text{C}$ NMR spectroscopy. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2010, 1798, 114-121.	2.6	12
82	Small molecule mimics of DFTamP1, a database designed anti-Staphylococcal peptide. <i>Bioorganic and Medicinal Chemistry</i> , 2017, 25, 864-869.	3.0	12
83	NMR Studies of a Model Antimicrobial Peptide in the Micelles of SDS, Dodecylphosphocholine, or Dioctanoylphosphatidylglycerol. <i>The Open Magnetic Resonance Journal</i> , 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. <i>Analytical Biochemistry</i> , 2004, 331, 33-39.	2.4	11
85	Structure and Activity of a Selective Antibiofilm Peptide SK-24 Derived from the NMR Structure of Human Cathelicidin LL-37. <i>Pharmaceuticals</i> , 2021, 14, 1245.	3.8	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. <i>Protein Expression and Purification</i> , 2007, 55, 395-405.	1.3	10
87	Interaction of the core fragments of the LL-37 host defense peptide with actin. <i>RSC Advances</i> , 2015, 5, 9361-9367.	3.6	9
88	Membrane activity of two short Trp-rich amphipathic peptides. <i>Biochimica Et Biophysica Acta - Biomembranes</i> , 2020, 1862, 183280.	2.6	8
89	Sequence Permutation Generates Peptides with Different Antimicrobial and Antibiofilm Activities. <i>Pharmaceuticals</i> , 2020, 13, 271.	3.8	8
90	Spotlight on the Selected New Antimicrobial Innate Immune Peptides Discovered During 2015-2019. <i>Current Topics in Medicinal Chemistry</i> , 2020, 20, 2984-2998.	2.1	7

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91	Database Resources Dedicated to Antimicrobial Peptides. , 2015, , 365-384.		6
92	<sup>1</sup> H, <sup>15</sup> N, and <sup>13</sup> C chemical shift assignments of the Escherichia coli nitrogen regulatory phosphocarrier IIA(Ntr). Journal of Biomolecular NMR, 2003, 27, 401-402.	2.8	3
93	Improved Database Filtering Technology Enables More Efficient Ab Initio Design of Potent Peptides against Ebola Viruses. Pharmaceuticals, 2022, 15, 521.	3.8	2
94	Linearized teixobactin is inactive and after sequence enhancement, kills methicillin-resistant <i>Staphylococcus aureus</i> via a different mechanism. Peptide Science, 2022, 114, .	1.8	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.	1.6	0
99	Realistic and critical review of the state of systemic antimicrobial peptides. ADMET and DMPK, 2022, 10, 91-105.	2.1	0