

# Gang Bao

## List of Publications by Year in descending order

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112  
papers

17,921  
citations

24978

57  
h-index

22102

113  
g-index

123  
all docs

123  
docs citations

123  
times ranked

27692  
citing authors

#	ARTICLE	IF	CITATIONS
1	DNA targeting specificity of RNA-guided Cas9 nucleases. <i>Nature Biotechnology</i> , 2013, 31, 827-832.	9.4	3,953
2	The effect of nanoparticle size on <i>in vivo</i> pharmacokinetics and cellular interaction. <i>Nanomedicine</i> , 2016, 11, 673-692.	1.7	1,197
3	Size-Dependent Endocytosis of Nanoparticles. <i>Advanced Materials</i> , 2009, 21, 419-424.	11.1	895
4	Physical Principles of Nanoparticle Cellular Endocytosis. <i>ACS Nano</i> , 2015, 9, 8655-8671.	7.3	852
5	A high-fidelity Cas9 mutant delivered as a ribonucleoprotein complex enables efficient gene editing in human hematopoietic stem and progenitor cells. <i>Nature Medicine</i> , 2018, 24, 1216-1224.	15.2	573
6	CRISPR/Cas9 systems have off-target activity with insertions or deletions between target DNA and guide RNA sequences. <i>Nucleic Acids Research</i> , 2014, 42, 7473-7485.	6.5	548
7	CRISPR/Cas9 systems targeting $\beta$ -globin and CCR5 genes have substantial off-target activity. <i>Nucleic Acids Research</i> , 2013, 41, 9584-9592.	6.5	544
8	Multifunctional Nanoparticles for Drug Delivery and Molecular Imaging. <i>Annual Review of Biomedical Engineering</i> , 2013, 15, 253-282.	5.7	437
9	CRISPR/Cas9-Based Genome Editing for Disease Modeling and Therapy: Challenges and Opportunities for Nonviral Delivery. <i>Chemical Reviews</i> , 2017, 117, 9874-9906.	23.0	418
10	Coating Optimization of Superparamagnetic Iron Oxide Nanoparticles for High $T_2$ Relaxivity. <i>Nano Letters</i> , 2010, 10, 4607-4613.	4.5	386
11	Cell Mechanics: Mechanical Response, Cell Adhesion, and Molecular Deformation. <i>Annual Review of Biomedical Engineering</i> , 2000, 2, 189-226.	5.7	365
12	CD7-edited T cells expressing a CD7-specific CAR for the therapy of T-cell malignancies. <i>Blood</i> , 2017, 130, 285-296.	0.6	326
13	COSMID: A Web-based Tool for Identifying and Validating CRISPR/Cas Off-target Sites. <i>Molecular Therapy - Nucleic Acids</i> , 2014, 3, e214.	2.3	315
14	Size-Dependent Heating of Magnetic Iron Oxide Nanoparticles. <i>ACS Nano</i> , 2017, 11, 6808-6816.	7.3	299
15	Seamless modification of wild-type induced pluripotent stem cells to the natural CCR5 $\Delta$ 32 mutation confers resistance to HIV infection. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 9591-9596.	3.3	296
16	Fluorescent Probes for Live-Cell RNA Detection. <i>Annual Review of Biomedical Engineering</i> , 2009, 11, 25-47.	5.7	217
17	Coating thickness of magnetic iron oxide nanoparticles affects $R_2$ relaxivity. <i>Journal of Magnetic Resonance Imaging</i> , 2007, 26, 1634-1641.	1.9	214
18	Gold Nanoshell Nanomicelles for Potential Magnetic Resonance Imaging, Light-Triggered Drug Release, and Photothermal Therapy. <i>Advanced Functional Materials</i> , 2013, 23, 815-822.	7.8	210

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19	Streptococcus thermophilus CRISPR-Cas9 Systems Enable Specific Editing of the Human Genome. <i>Molecular Therapy</i> , 2016, 24, 636-644.	3.7	204
20	Multifunctional superparamagnetic iron oxide nanoparticles for combined chemotherapy and hyperthermia cancer treatment. <i>Nanoscale</i> , 2015, 7, 12728-12736.	2.8	195
21	The <i>Neisseria meningitidis</i> CRISPR-Cas9 System Enables Specific Genome Editing in Mammalian Cells. <i>Molecular Therapy</i> , 2016, 24, 645-654.	3.7	190
22	Platelet mechanosensing of substrate stiffness during clot formation mediates adhesion, spreading, and activation. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2014, 111, 14430-14435.	3.3	166
23	TALENs facilitate targeted genome editing in human cells with high specificity and low cytotoxicity. <i>Nucleic Acids Research</i> , 2014, 42, 6762-6773.	6.5	165
24	Tumour-on-a-chip: microfluidic models of tumour morphology, growth and microenvironment. <i>Journal of the Royal Society Interface</i> , 2017, 14, 20170137.	1.5	155
25	Gene correction for SCID-X1 in long-term hematopoietic stem cells. <i>Nature Communications</i> , 2019, 10, 1634.	5.8	140
26	AAV-CRISPR Gene Editing Is Negated by Pre-existing Immunity to Cas9. <i>Molecular Therapy</i> , 2020, 28, 1432-1441.	3.7	140
27	Engineered materials for in vivo delivery of genome-editing machinery. <i>Nature Reviews Materials</i> , 2019, 4, 726-737.	23.3	139
28	Self-Assembly of Phospholipid-PEG Coating on Nanoparticles through Dual Solvent Exchange. <i>Nano Letters</i> , 2011, 11, 3720-3726.	4.5	135
29	Magnetic forces enable controlled drug delivery by disrupting endothelial cell-cell junctions. <i>Nature Communications</i> , 2017, 8, 15594.	5.8	132
30	Gold Nanoshelled Liquid Perfluorocarbon Magnetic Nanocapsules: a Nanotheranostic Platform for Bimodal Ultrasound/Magnetic Resonance Imaging Guided Photothermal Tumor Ablation. <i>Theranostics</i> , 2014, 4, 12-23.	4.6	129
31	Structure-function relationships of shared-stem and conventional molecular beacons. <i>Nucleic Acids Research</i> , 2002, 30, 4208-4215.	6.5	127
32	Nanostructured Probes for RNA Detection in Living Cells. <i>Annals of Biomedical Engineering</i> , 2006, 34, 39-50.	1.3	127
33	Quantifying on- and off-target genome editing. <i>Trends in Biotechnology</i> , 2015, 33, 132-140.	4.9	127
34	Quantifying Genome-Editing Outcomes at Endogenous Loci with SMRT Sequencing. <i>Cell Reports</i> , 2014, 7, 293-305.	2.9	115
35	Magnetic iron oxide nanoparticles for disease detection and therapy. <i>Materials Today</i> , 2019, 31, 86-99.	8.3	114
36	Highly efficient editing of the $\beta$ -globin gene in patient-derived hematopoietic stem and progenitor cells to treat sickle cell disease. <i>Nucleic Acids Research</i> , 2019, 47, 7955-7972.	6.5	110

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37	An online bioinformatics tool predicts zinc finger and TALE nuclease off-target cleavage. <i>Nucleic Acids Research</i> , 2014, 42, e42-e42.	6.5	109
38	Efficient CRISPR/Cas9-Mediated Genome Editing Using a Chimeric Single-Guide RNA Molecule. <i>Frontiers in Plant Science</i> , 2017, 8, 1441.	1.7	107
39	Spatial control of in vivo CRISPR-Cas9 genome editing via nanomagnets. <i>Nature Biomedical Engineering</i> , 2019, 3, 126-136.	11.6	107
40	Mechanics of biomolecules. <i>Journal of the Mechanics and Physics of Solids</i> , 2002, 50, 2237-2274.	2.3	101
41	Nuclease Target Site Selection for Maximizing On-target Activity and Minimizing Off-target Effects in Genome Editing. <i>Molecular Therapy</i> , 2016, 24, 475-487.	3.7	100
42	Optimization of CRISPR/Cas9 Delivery to Human Hematopoietic Stem and Progenitor Cells for Therapeutic Genomic Rearrangements. <i>Molecular Therapy</i> , 2019, 27, 137-150.	3.7	97
43	High-Efficiency, Selection-free Gene Repair in Airway Stem Cells from Cystic Fibrosis Patients Rescues CFTR Function in Differentiated Epithelia. <i>Cell Stem Cell</i> , 2020, 26, 161-171.e4.	5.2	97
44	A Self-Deleting AAV-CRISPR System for In Vivo Genome Editing. <i>Molecular Therapy - Methods and Clinical Development</i> , 2019, 12, 111-122.	1.8	93
45	Shedding light on the dynamics of endocytosis and viral budding. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2005, 102, 9997-9998.	3.3	91
46	Magnetic Targeting of Human Mesenchymal Stem Cells with Internalized Superparamagnetic Iron Oxide Nanoparticles. <i>Small</i> , 2013, 9, 4017-4026.	5.2	90
47	Therapeutically relevant engraftment of a CRISPR-Cas9-edited HSC-enriched population with HbF reactivation in nonhuman primates. <i>Science Translational Medicine</i> , 2019, 11, .	5.8	88
48	Human genome-edited hematopoietic stem cells phenotypically correct Mucopolysaccharidosis type I. <i>Nature Communications</i> , 2019, 10, 4045.	5.8	88
49	A Burden of Rare Variants Associated with Extremes of Gene Expression in Human Peripheral Blood. <i>American Journal of Human Genetics</i> , 2016, 98, 299-309.	2.6	84
50	The NIH Somatic Cell Genome Editing program. <i>Nature</i> , 2021, 592, 195-204.	13.7	84
51	Effect of Inclusions on Densification: II, Numerical Model. <i>Journal of the American Ceramic Society</i> , 1992, 75, 525-531.	1.9	83
52	Development of $\beta^2$ -globin gene correction in human hematopoietic stem cells as a potential durable treatment for sickle cell disease. <i>Science Translational Medicine</i> , 2021, 13, .	5.8	82
53	HuR regulates the expression of stress-sensitive genes and mediates inflammatory response in human umbilical vein endothelial cells. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , 2010, 107, 6858-6863.	3.3	80
54	Somatic genome editing with CRISPR/Cas9 generates and corrects a metabolic disease. <i>Scientific Reports</i> , 2017, 7, 44624.	1.6	76

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55	Target accessibility and signal specificity in live-cell detection of BMP-4 mRNA using molecular beacons. <i>Nucleic Acids Research</i> , 2008, 36, e30-e30.	6.5	74
56	ZnS/Silica Nanocable Field Effect Transistors as Biological and Chemical Nanosensors. <i>Journal of Physical Chemistry C</i> , 2007, 111, 12152-12156.	1.5	72
57	Rho-Associated Coiled-Coil Kinase (ROCK) in Molecular Regulation of Angiogenesis. <i>Theranostics</i> , 2018, 8, 6053-6069.	4.6	65
58	In Vivo <i>Ryr2</i> Editing Corrects Catecholaminergic Polymorphic Ventricular Tachycardia. <i>Circulation Research</i> , 2018, 123, 953-963.	2.0	63
59	Somatic Editing of <i>Ldlr</i> With Adeno-Associated Viral-CRISPR Is an Efficient Tool for Atherosclerosis Research. <i>Arteriosclerosis, Thrombosis, and Vascular Biology</i> , 2018, 38, 1997-2006.	1.1	63
60	Purification of Cardiomyocytes From Differentiating Pluripotent Stem Cells Using Molecular Beacons That Target Cardiomyocyte-Specific mRNA. <i>Circulation</i> , 2013, 128, 1897-1909.	1.6	52
61	Tools for experimental and computational analyses of off-target editing by programmable nucleases. <i>Nature Protocols</i> , 2021, 16, 10-26.	5.5	52
62	Simultaneous detection of mRNA and protein stem cell markers in live cells. <i>BMC Biotechnology</i> , 2009, 9, 30.	1.7	51
63	SAPTA: a new design tool for improving TALE nuclease activity. <i>Nucleic Acids Research</i> , 2014, 42, e47-e47.	6.5	49
64	Genome editing of donor-derived T-cells to generate allogenic chimeric antigen receptor-modified T cells: Optimizing $\beta 2$ T cell-depleted haploidentical hematopoietic stem cell transplantation. <i>Haematologica</i> , 2021, 106, 847-858.	1.7	46
65	Efficient <i>fdCas9</i> Synthetic Endonuclease with Improved Specificity for Precise Genome Engineering. <i>PLoS ONE</i> , 2015, 10, e0133373.	1.1	46
66	Human tumor microenvironment chip evaluates the consequences of platelet extravasation and combinatorial antitumor-antiplatelet therapy in ovarian cancer. <i>Science Advances</i> , 2021, 7, .	4.7	43
67	Genome editing for inborn errors of metabolism: advancing towards the clinic. <i>BMC Medicine</i> , 2017, 15, 43.	2.3	42
68	Molecular beacon-enabled purification of living cells by targeting cell type-specific mRNAs. <i>Nature Protocols</i> , 2014, 9, 2411-2424.	5.5	41
69	Metabolic engineering generates a transgene-free safety switch for cell therapy. <i>Nature Biotechnology</i> , 2020, 38, 1441-1450.	9.4	39
70	TALENs Facilitate Single-step Seamless SDF Correction of F508del CFTR in Airway Epithelial Submucosal Gland Cell-derived CF-iPSCs. <i>Molecular Therapy - Nucleic Acids</i> , 2016, 5, e273.	2.3	38
71	Molecular Biomechanics: The Molecular Basis of How Forces Regulate Cellular Function. <i>Cellular and Molecular Bioengineering</i> , 2010, 3, 91-105.	1.0	37
72	Programmable Assembly of Iron Oxide Nanoparticles Using DNA Origami. <i>Nano Letters</i> , 2020, 20, 2799-2805.	4.5	37

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73	USNCTAM perspectives on mechanics in medicine. <i>Journal of the Royal Society Interface</i> , 2014, 11, 20140301.	1.5	35
74	Trans-spliced Cas9 allows cleavage of HBB and CCR5 genes in human cells using compact expression cassettes. <i>Scientific Reports</i> , 2015, 5, 10777.	1.6	34
75	Single-Cell Detection of mRNA Expression Using Nanofountain-Probe Electroporated Molecular Beacons. <i>Small</i> , 2015, 11, 2386-2391.	5.2	32
76	CRISPR/Cas9 gene editing for curing sickle cell disease. <i>Transfusion and Apheresis Science</i> , 2021, 60, 103060.	0.5	32
77	Lipid-Encapsulated Fe <sub>3</sub> O <sub>4</sub> Nanoparticles for Multimodal Magnetic Resonance/Fluorescence Imaging. <i>ACS Applied Nano Materials</i> , 2020, 3, 6785-6797.	2.4	31
78	Molecular beacon-based detection and isolation of working-type cardiomyocytes derived from human pluripotent stem cells. <i>Biomaterials</i> , 2015, 50, 176-185.	5.7	30
79	MicroRNA Detection Using a Double Molecular Beacon Approach: Distinguishing Between miRNA and Pre-miRNA. <i>Theranostics</i> , 2017, 7, 634-646.	4.6	30
80	Microtubule-Associated Protein Mdp3 Promotes Breast Cancer Growth and Metastasis. <i>Theranostics</i> , 2014, 4, 1052-1061.	4.6	27
81	Collagen-rich airway smooth muscle cells are a metastatic niche for tumor colonization in the lung. <i>Nature Communications</i> , 2019, 10, 2131.	5.8	27
82	Targeted replacement of full-length CFTR in human airway stem cells by CRISPR-Cas9 for pan-mutation correction in the endogenous locus. <i>Molecular Therapy</i> , 2022, 30, 223-237.	3.7	24
83	The TRACE-Seq method tracks recombination alleles and identifies clonal reconstitution dynamics of gene targeted human hematopoietic stem cells. <i>Nature Communications</i> , 2021, 12, 472.	5.8	23
84	Non-genetic Purification of Ventricular Cardiomyocytes from Differentiating Embryonic Stem Cells through Molecular Beacons Targeting IRX-4. <i>Stem Cell Reports</i> , 2015, 5, 1239-1249.	2.3	21
85	Loading Lovastatin into Camptothecin-Floxuridine Conjugate Nanocapsules for Enhancing Anti-metastatic Efficacy of Cocktail Chemotherapy on Triple-negative Breast Cancer. <i>ACS Applied Materials &amp; Interfaces</i> , 2018, 10, 29385-29397.	4.0	21
86	Controlled delivery of Î²-globin-targeting TALENs and CRISPR/Cas9 into mammalian cells for genome editing using microinjection. <i>Scientific Reports</i> , 2015, 5, 16031.	1.6	20
87	Examination of CRISPR/Cas9 design tools and the effect of target site accessibility on Cas9 activity. <i>Experimental Physiology</i> , 2018, 103, 456-460.	0.9	20
88	Click functionalized, tissue-specific hydrogels for osteochondral tissue engineering. <i>Journal of Biomedical Materials Research - Part A</i> , 2020, 108, 684-693.	2.1	20
89	Structural responses of cells to intracellular magnetic force induced by superparamagnetic iron oxide nanoparticles. <i>Physical Chemistry Chemical Physics</i> , 2014, 16, 1914-1920.	1.3	17
90	CYLD Regulates Noscaphine Activity in Acute Lymphoblastic Leukemia via a Microtubule-Dependent Mechanism. <i>Theranostics</i> , 2015, 5, 656-666.	4.6	17

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91	Magnetic iron oxide nanoparticles for biomedical applications. <i>Current Opinion in Biomedical Engineering</i> , 2021, 20, 100330.	1.8	17
92	Accurate Quantification of Disease Markers in Human Serum Using Iron Oxide Nanoparticle-linked Immunosorbent Assay. <i>Theranostics</i> , 2016, 6, 1353-1361.	4.6	16
93	Molecular mechanisms of mechanosensing and mechanotransduction in living cells. <i>Extreme Mechanics Letters</i> , 2018, 20, 91-98.	2.0	14
94	Advanced Cell and Tissue Biomanufacturing. <i>ACS Biomaterials Science and Engineering</i> , 2018, 4, 2292-2307.	2.6	14
95	Treating hemoglobinopathies using gene-correction approaches: promises and challenges. <i>Human Genetics</i> , 2016, 135, 993-1010.	1.8	13
96	Multichannel power electronics and magnetic nanoparticles for selective thermal magnetogenetics. <i>Journal of Neural Engineering</i> , 2022, 19, 026015.	1.8	12
97	Indirect magnetic force microscopy. <i>Nanoscale Advances</i> , 2019, 1, 2348-2355.	2.2	11
98	Control of Iron Oxide Nanoparticle Clustering Using Dual Solvent Exchange. <i>IEEE Magnetics Letters</i> , 2016, 7, 1-4.	0.6	10
99	Design and Validation of CRISPR/Cas9 Systems for Targeted Gene Modification in Induced Pluripotent Stem Cells. <i>Methods in Molecular Biology</i> , 2017, 1498, 3-21.	0.4	10
100	InÂvivo genome editing at the albumin locus to treat methylmalonic acidemia. <i>Molecular Therapy - Methods and Clinical Development</i> , 2021, 23, 619-632.	1.8	10
101	Targeting the Apoa1 locus for liver-directed gene therapy. <i>Molecular Therapy - Methods and Clinical Development</i> , 2021, 21, 656-669.	1.8	9
102	Synthesis and Application of Magnetic Nanocrystal Clusters. <i>Industrial &amp; Engineering Chemistry Research</i> , 2022, 61, 7613-7625.	1.8	9
103	Controlled oxidation and surface modification increase heating capacity of magnetic iron oxide nanoparticles. <i>Applied Physics Reviews</i> , 2021, 8, .	5.5	7
104	Site-Specific Post-translational Surface Modification of Adeno-Associated Virus Vectors Using Leucine Zippers. <i>ACS Synthetic Biology</i> , 2020, 9, 461-467.	1.9	6
105	High bone microarchitecture, strength, and resistance to bone loss in MRL/MpJ mice correlates with activation of different signaling pathways and systemic factors. <i>FASEB Journal</i> , 2020, 34, 789-806.	0.2	5
106	Engineering nanostructured probes for sensitive intracellular gene detection. <i>Mcb Mechanics and Chemistry of Biosystems</i> , 2004, 1, 23-36.	0.3	5
107	Magnetic Forces Enable Control of Biological Processes In Vivo. <i>Journal of Applied Mechanics, Transactions ASME</i> , 2021, 88, 030801.	1.1	2
108	An Integrated Microheater Array with Closed-Loop Temperature Regulation Based on Ferromagnetic Resonance of Magnetic Nanoparticles. <i>IEEE Transactions on Biomedical Circuits and Systems</i> , 2021, PP, 1-1.	2.7	2

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109	Development of a Novel Class of Self-Assembling dsRNA Cancer Therapeutics: A Proof-of-Concept Investigation. <i>Molecular Therapy - Oncolytics</i> , 2020, 18, 419-431.	2.0	1
110	Identification and Validation of CRISPR/Cas9 Off-Target Activity in Hematopoietic Stem and Progenitor Cells. <i>Methods in Molecular Biology</i> , 2022, 2429, 281-306.	0.4	1
111	Frontiers in Bioengineering Research. <i>Annals of Biomedical Engineering</i> , 2014, 42, 241-242.	1.3	0
112	Abstract 17986: Molecular Beacon-based Purification of Ventricular Cardiomyocytes From Differentiating Embryonic Stem Cells by Targeting Intracellular Mrna. <i>Circulation</i> , 2014, 130, .	1.6	0