Evolutionary classification of CRISPRâ€“Cas systems: a

Nature Reviews Microbiology

18, 67-83

DOI: 10.1038/s41579-019-0299-x

Citation Report

#	Article	IF	Citations
1	CasCollect: targeted assembly of CRISPR-associated operons from high-throughput sequencing data. NAR Genomics and Bioinformatics, 2020, 2, lqaa063.	1.5	2
2	Evolutionary Ecology and Interplay of Prokaryotic Innate and Adaptive Immune Systems. Current Biology, 2020, 30, R1189-R1202.	1.8	48
3	Genetic Characterization of Three Distinct Mechanisms Supporting RNA-Driven DNA Repair and Modification Reveals Major Role of DNA Polymerase Î¶. Molecular Cell, 2020, 79, 1037-1050.e5.	4.5	29
4	Base editing: advances and therapeutic opportunities. Nature Reviews Drug Discovery, 2020, 19, 839-859.	21.5	218
5	Enhancing site-specific DNA integration by a Cas9 nuclease fused with a DNA donor-binding domain. Nucleic Acids Research, 2020, 48, 10590-10601.	6.5	20
6	Structural basis for two metal-ion catalysis of DNA cleavage by Cas12i2. Nature Communications, 2020, 11, 5241.	5.8	41
7	A compact Cascadeâ€“Cas3 system for targeted genome engineering. Nature Methods, 2020, 17, 1183-1190.	9.0	104
8	Gene Editing by Extracellular Vesicles. International Journal of Molecular Sciences, 2020, 21, 7362.	1.8	30
9	Type II anti-CRISPR proteins as a new tool for synthetic biology. RNA Biology, 2021, 18, 1085-1098.	1.5	7
10	CRISPR/Cas9: A Robust Genome-Editing Tool with Versatile Functions and Endless Application. International Journal of Molecular Sciences, 2020, 21, 5111.	1.8	4
11	A positive, growth-based PAM screen identifies noncanonical motifs recognized by the S. pyogenes Cas9. Science Advances, 2020, 6, eabb4054.	4.7	21
12	CRISPR-CasÎ¦ from huge phages is a hypercompact genome editor. Science, 2020, 369, 333-337.	6.0	352
13	Genome Editing for CNS Disorders. Frontiers in Neuroscience, 2020, 14, 579062.	1.4	18
14	A versatile toolkit for CRISPR-Cas13-based RNA manipulation in Drosophila. Genome Biology, 2020, 21, 279.	3.8	59
15	Diverse CRISPR-Cas Complexes Require Independent Translation of Small and Large Subunits from a Single Gene. Molecular Cell, 2020, 80, 971-979.e7.	4.5	27
16	Structural basis for inhibition of an archaeal CRISPRâ€“Cas type I-D large subunit by an anti-CRISPR protein. Nature Communications, 2020, 11, 5993.	5.8	17
17	Guide RNA Categorization Enables Target Site Choice in Tn7-CRISPR-Cas Transposons. Cell, 2020, 183, 1757-1771.e18.	13.5	73
18	Heavily Armed Ancestors: CRISPR Immunity and Applications in Archaea with a Comparative Analysis of CRISPR Types in Sulfolobales. Biomolecules, 2020, 10, 1523.	1.8	14

#	Article	IF	Citations
19	Type III-A CRISPR-associated protein Csm6 degrades cyclic hexa-adenylate activator using both CARF and HEPN domains. Nucleic Acids Research, 2020, 48, 9204-9217.	6.5	28
20	CRISPR-Cas9 System for Plant Genome Editing: Current Approaches and Emerging Developments. Agronomy, 2020, 10, 1033.	1.3	47
21	Point-of-care CRISPR/Cas nucleic acid detection: Recent advances, challenges and opportunities. Biosensors and Bioelectronics, 2020, 166, 112445.	5.3	222
22	Structures of the Cmr-Î² Complex Reveal the Regulation of the Immunity Mechanism of Type III-B CRISPR-Cas. Molecular Cell, 2020, 79, 741-757.e7.	4.5	43
23	Structural basis of CRISPR-Cas Type III prokaryotic defence systems. Current Opinion in Structural Biology, 2020, 65, 119-129.	2.6	42
24	Evolutionary and functional classification of the CARF domain superfamily, key sensors in prokaryotic antivirus defense. Nucleic Acids Research, 2020, 48, 8828-8847.	6.5	66
25	A Primary Physiological Role of Toxin/Antitoxin Systems Is Phage Inhibition. Frontiers in Microbiology, 2020, 11, 1895.	1.5	111
26	It is unclear how important CRISPR-Cas systems are for protecting natural populations of bacteria against infections by mobile genetic elements. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 27777-27785.	3.3	32
27	Tissue-Specific Delivery of CRISPR Therapeutics: Strategies and Mechanisms of Non-Viral Vectors. International Journal of Molecular Sciences, 2020, 21, 7353.	1.8	24
29	Types I and V Anti-CRISPR Proteins: From Phage Defense to Eukaryotic Synthetic Gene Circuits. Frontiers in Bioengineering and Biotechnology, 2020, 8, 575393.	2.0	7
30	DNA targeting by subtype I-D CRISPRâ€“Cas shows type I and type III features. Nucleic Acids Research, 2020, 48, 10470-10478.	6.5	24
31	Can CRISPR/Cas Technology Be a Felicitous Stratagem Against the COVID-19 Fiasco? Prospects and Hitches. Frontiers in Molecular Biosciences, 2020, 7, 557377.	1.6	15
32	Designing custom CRISPR libraries for hypothesis-driven drug target discovery. Computational and Structural Biotechnology Journal, 2020, 18, 2237-2246.	1.9	10
33	Double-Barreled CRISPR Technology as a Novel Treatment Strategy For COVID-19. ACS Pharmacology and Translational Science, 2020, 3, 790-800.	2.5	20
34	Mitochondrial import, health and mtDNA copy number variability using type II and type V CRISPR effectors. Journal of Cell Science, 2020, 133, .	1.2	16
35	Enzyme-Assisted Nucleic Acid Detection for Infectious Disease Diagnostics: Moving toward the Point-of-Care. ACS Sensors, 2020, 5, 2701-2723.	4.0	56
36	Molecular Mechanisms of CRISPR-Cas Immunity in Bacteria. Annual Review of Genetics, 2020, 54, 93-120.	3.2	94
37	Grad-seq shines light on unrecognized RNA and protein complexes in the model bacterium EscherichiaÂcoli. Nucleic Acids Research, 2020, 48, 9301-9319.	6.5	30

#	Article	IF	Citations
38	CRISPR-Based Diagnosis of Infectious and Noninfectious Diseases. Biological Procedures Online, 2020, 22, 22.	1.4	69
39	Identification of a Type IV-A CRISPR-Cas System Located Exclusively on IncHI1B/IncFIB Plasmids in Enterobacteriaceae. Frontiers in Microbiology, 2020, 11, 1937.	1.5	29
40	Structural and mechanistic insights into the CRISPR inhibition of AcrIF7. Nucleic Acids Research, 2020, 48, 9959-9968.	6.5	13
41	Chemistry of Class 1 CRISPR-Cas effectors: Binding, editing, and regulation. Journal of Biological Chemistry, 2020, 295, 14473-14487.	1.6	49
42	The CARF Protein MM_0565 Affects Transcription of the Casposon-Encoded cas1-solo Gene in Methanosarcina mazei GÃ¶1. Biomolecules, 2020, 10, 1161.	1.8	3
43	Spacer acquisition by Type III CRISPRâ€“Cas system during bacteriophage infection of Thermus thermophilus. Nucleic Acids Research, 2020, 48, 9787-9803.	6.5	24
44	Structural basis for assembly of non-canonical small subunits into type I-C Cascade. Nature Communications, 2020, 11, 5931.	5.8	23
45	CRISPR-Cas Systems: Prospects for Use in Medicine. Applied Sciences (Switzerland), 2020, 10, 9001.	1.3	5
46	Various Aspects of a Gene Editing Systemâ€”CRISPRâ€“Cas9. International Journal of Molecular Sciences, 2020, 21, 9604.	1.8	57
47	Assessing Off-Target Editing of CRISPR-Cas9 Systems. CRISPR Journal, 2020, 3, 430-432.	1.4	2
48	CRISPRCasTyper: Automated Identification, Annotation, and Classification of CRISPR-Cas Loci. CRISPR Journal, 2020, 3, 462-469.	1.4	128
53	PpCas9 from Pasteurella pneumotropicaÂâ€”Âa compact Type II-C Cas9 ortholog active in human cells. Nucleic Acids Research, 2020, 48, 12297-12309.	6.5	19
54	Discovery of multiple anti-CRISPRs highlights anti-defense gene clustering in mobile genetic elements. Nature Communications, 2020, 11, 5652.	5.8	88
55	CRISPR-Cas Tools and Their Application in Genetic Engineering of Human Stem Cells and Organoids. Cell Stem Cell, 2020, 27, 705-731.	5.2	95
56	A catalogue of biochemically diverse CRISPR-Cas9 orthologs. Nature Communications, 2020, 11, 5512.	5.8	116
57	Primed CRISPR DNA uptake in Pyrococcus furiosus. Nucleic Acids Research, 2020, 48, 6120-6135.	6.5	20
58	Anti-CRISPR Proteins in Archaea. Trends in Microbiology, 2020, 28, 913-921.	3.5	19
59	AcrIF9 tethers non-sequence specific dsDNA to the CRISPR RNA-guided surveillance complex. Nature Communications, 2020, 11, 2730.	5.8	27

#	Article	IF	Citations
60	AcrFinder: genome mining anti-CRISPR operons in prokaryotes and their viruses. Nucleic Acids Research, 2020, 48, W358-W365.	6.5	40
61	Comprehensive Mining and Characterization of CRISPR-Cas Systems in Bifidobacterium. Microorganisms, 2020, 8, 720.	1.6	28
62	Specificities and functional coordination between the two Cas6 maturation endonucleases in Anabaena sp. PCC 7120 assign orphan CRISPR arrays to three groups. RNA Biology, 2020, 17, 1442-1453.	1.5	7
63	Applications of CRISPR-Cas systems in lactic acid bacteria. FEMS Microbiology Reviews, 2020, 44, 523-537.	3.9	34
64	A phage-encoded anti-CRISPR enables complete evasion of type VI-A CRISPR-Cas immunity. Science, 2020, 369, 54-59.	6.0	77
65	Bio-Layer Interferometry Analysis of the Target Binding Activity of CRISPR-Cas Effector Complexes. Frontiers in Molecular Biosciences, 2020, 7, 98.	1.6	39
66	Genome editing with CRISPRâ€“Cas nucleases, base editors, transposases and prime editors. Nature Biotechnology, 2020, 38, 824-844.	9.4	1,277
67	CRISPRcasIdentifier: Machine learning for accurate identification and classification of CRISPR-Cas systems. GigaScience, 2020, 9, .	3.3	31
68	Structures and Strategies of Anti-CRISPR-Mediated Immune Suppression. Annual Review of Microbiology, 2020, 74, 21-37.	2.9	62
69	DNA interference is controlled by R-loop length in a type I-F1 CRISPR-Cas system. BMC Biology, 2020, 18, 65.	1.7	15
70	CRISPR with a Happy Ending: Nonâ€Templated DNA Repair for Prokaryotic Genome Engineering. Biotechnology Journal, 2020, 15, e1900404.	1.8	9
71	Unprecedented Diversity of Unique CRISPR-Cas-Related Systems and Cas1 Homologs in Asgard Archaea. CRISPR Journal, 2020, 3, 156-163.	1.4	17
72	Intrinsic disorder is essential for Cas9 inhibition of anti-CRISPR AcrIIA5. Nucleic Acids Research, 2020, 48, 7584-7594.	6.5	12
73	Repurposing type Iâ€“F CRISPRâ€“Cas system as a transcriptional activation tool in human cells. Nature Communications, 2020, 11, 3136.	5.8	45
74	A Jumbo Formation in the Viral Game Plan. CRISPR Journal, 2020, 3, 14-17.	1.4	2
75	Nucleic Acid Detection Using CRISPR/Cas Biosensing Technologies. ACS Synthetic Biology, 2020, 9, 1226-1233.	1.9	226
76	Recent advances in CRISPR research. Protein and Cell, 2020, 11, 786-791.	4.8	12
77	Regulation of the RNA and DNA nuclease activities required for Pyrococcus furiosus Type III-B CRISPRâ€“Cas immunity. Nucleic Acids Research, 2020, 48, 4418-4434.	6.5	34

#	Article	IF	Citations
78	Cas3 Proteinâ€"A Review of a Multi-Tasking Machine. Genes, 2020, 11, 208.	1.0	21
79	CRISPR Shields: Fending Off Diverse Cas Nucleases with Nucleus-like Structures. Molecular Cell, 2020, 77, 934-936.	4.5	0
80	Multidrug Resistance (MDR) and Collateral Sensitivity in Bacteria, with Special Attention to Genetic and Evolutionary Aspects and to the Perspectives of Antimicrobial Peptidesâ€"A Review. Pathogens, 2020, 9, 522.	1.2	39
81	Shutting down RNA-targeting CRISPR. Science, 2020, 369, 31-32.	6.0	1
82	A Tale of Two Moieties: Rapidly Evolving CRISPR/Cas-Based Genome Editing. Trends in Biochemical Sciences, 2020, 45, 874-888.	3.7	23
83	Characterization of a Type II-A CRISPR-Cas System in Streptococcus mutans. MSphere, 2020, 5, .	1.3	14
84	Mapping CRISPR spacerome reveals vast host-specific viromes of prokaryotes. Communications Biology, 2020, 3, 321.	2.0	31
85	First structural insights into CRISPR-Cas-guided DNA transposition. Cell Research, 2020, 30, 193-194.	5.7	7
86	Endogenous Type I CRISPR-Cas: From Foreign DNA Defense to Prokaryotic Engineering. Frontiers in Bioengineering and Biotechnology, 2020, 8, 62.	2.0	67
87	PAM recognition by miniature CRISPRâ€"Cas12f nucleases triggers programmable double-stranded DNA target cleavage. Nucleic Acids Research, 2020, 48, 5016-5023.	6.5	175
88	Adenoviral Vectors Meet Gene Editing: A Rising Partnership for the Genomic Engineering of Human Stem Cells and Their Progeny. Cells, 2020, 9, 953.	1.8	19
89	How CRISPR-Cas System Could Be Used to Combat Antimicrobial Resistance . Infection and Drug Resistance, 2020, Volume 13, 1111-1121.	1.1	87
90	ErCas12a CRISPR-MAD7 for Model Generation in Human Cells, Mice, and Rats. CRISPR Journal, 2020, 3, 97-108.	1.4	34
91	A short overview of the CRISPR-Cas adaptation stage. Canadian Journal of Microbiology, 2021, 67, 1-12.	0.8	15
92	Harnessing the type I <scp>CRISPRâ€Cas</scp> systems for genome editing in prokaryotes. Environmental Microbiology, 2021, 23, 542-558.	1.8	23
93	CRISPR-Cas adaptive immune systems in Sulfolobales: genetic studies and molecular mechanisms. Science China Life Sciences, 2021, 64, 678-696.	2.3	14
94	SHERLOCK and DETECTR: CRISPR-Cas Systems as Potential Rapid Diagnostic Tools for Emerging Infectious Diseases. Journal of Clinical Microbiology, 2021, 59, .	1.8	124
95	Phage gene expression and host responses lead to infection-dependent costs of CRISPR immunity. ISME Journal, 2021, 15, 534-544.	4.4	19

#	Article	IF	Citations
96	CRISPR/Cas: A powerful tool for gene function study and crop improvement. Journal of Advanced Research, 2021, 29, 207-221.	4.4	136
97	COG database update: focus on microbial diversity, model organisms, and widespread pathogens. Nucleic Acids Research, 2021, 49, D274-D281.	6.5	441
98	CRISPR-based biosensing systems: a way to rapidly diagnose COVID-19. Critical Reviews in Clinical Laboratory Sciences, 2021, 58, 225-241.	2.7	17
99	Pointâ€ofâ€Care Pathogen Detection with CRISPRâ€based Programmable Nucleic Acid Binding Proteins. ChemMedChem, 2021, 16, 1566-1575.	1.6	9
100	CRISPR-derived genome editing technologies for metabolic engineering. Metabolic Engineering, 2021, 63, 141-147.	3.6	23
101	Expansion of the CRISPR/Cas Genome-Sculpting Toolbox: Innovations, Applications and Challenges. Molecular Diagnosis and Therapy, 2021, 25, 41-57.	1.6	9
102	Identification of Natural CRISPR Systems and Targets in the Human Microbiome. Cell Host and Microbe, 2021, 29, 94-106.e4.	5.1	20
103	CRISPRidentify: identification of CRISPR arrays using machine learning approach. Nucleic Acids Research, 2021, 49, e20-e20.	6.5	44
104	MHC Class III RNA Binding Proteins and Immunity. RNA Biology, 2021, 18, 640-646.	1.5	19
105	Sophisticated CRISPR/Cas tools for fine-tuning plant performance. Journal of Plant Physiology, 2021, 257, 153332.	1.6	10
106	CRISPRing future medicines. Expert Opinion on Drug Discovery, 2021, 16, 463-473.	2.5	2
107	Optogenetic control of Neisseria meningitidis Cas9 genome editing using an engineered, light-switchable anti-CRISPR protein. Nucleic Acids Research, 2021, 49, e29-e29.	6.5	25
108	Anti-CRISPR AcrIE2 Binds the Type I-E CRISPR-Cas Complex But Does Not Block DNA Binding. Journal of Molecular Biology, 2021, 433, 166759.	2.0	11
109	HEPN RNases â€“ an emerging class of functionally distinct RNA processing and degradation enzymes. Critical Reviews in Biochemistry and Molecular Biology, 2021, 56, 88-108.	2.3	6
110	Structure of the miniature type V-F CRISPR-Cas effector enzyme. Molecular Cell, 2021, 81, 558-570.e3.	4.5	95
111	Controlling and enhancing CRISPR systems. Nature Chemical Biology, 2021, 17, 10-19.	3.9	108
112	Conquering CRISPR: how phages overcome bacterial adaptive immunity. Current Opinion in Biotechnology, 2021, 68, 30-36.	3.3	47
113	AcrDB: a database of anti-CRISPR operons in prokaryotes and viruses. Nucleic Acids Research, 2021, 49, D622-D629.	6.5	31

#	Article	IF	Citations
114	CRISPR-based metabolic pathway engineering. Metabolic Engineering, 2021, 63, 148-159.	3.6	24
115	CRISPR/Cas gene therapy. Journal of Cellular Physiology, 2021, 236, 2459-2481.	2.0	87
116	Comparative CRISPR type III-based knockdown of essential genes in hyperthermophilic Sulfolobales and the evasion of lethal gene silencing. RNA Biology, 2021, 18, 421-434.	1.5	10
117	Using Synthetically Engineered Guide RNAs to Enhance CRISPR Genome Editing Systems in Mammalian Cells. Frontiers in Genome Editing, 2020, 2, 617910.	2.7	43
118	CRISPR-Cas9 system for functional genomics of filamentous fungi: applications and challenges. , 2021, , 541-576.		2
119	Multiplexed Genome Engineering with Cas12a. Methods in Molecular Biology, 2021, 2312, 171-192.	0.4	5
120	The biology of thermoacidophilic archaea from the order Sulfolobales. FEMS Microbiology Reviews, 2021, 45, .	3.9	24
121	The CRISPR-Cas Mechanism for Adaptive Immunity and AlternateÂBacterialÂFunctions Fuels Diverse Biotechnologies. Frontiers in Cellular and Infection Microbiology, 2020, 10, 619763.	1.8	35
122	History, evolution and classification of CRISPR-Cas associated systems. Progress in Molecular Biology and Translational Science, 2021, 179, 11-76.	0.9	18
123	Identification and classification of antiviral defence systems in bacteria and archaea with PADLOC reveals new system types. Nucleic Acids Research, 2021, 49, 10868-10878.	6.5	92
124	A rapid CRISPR competitive assay for in vitro and in vivo discovery of potential drug targets affecting the hematopoietic system. Computational and Structural Biotechnology Journal, 2021, 19, 5360-5370.	1.9	2
125	Functional Genomics Approaches to Elucidate Vulnerabilities of Intrinsic and Acquired Chemotherapy Resistance. Cells, 2021, 10, 260.	1.8	4
126	SELECTED ASPECTS OF THE CRISPR-CAS BIOLOGY AND APPLICATIONS. Postepy Mikrobiologii, 2021, 60, 3-12.	0.1	0
127	CRISPRâ€“Cas systems as antimicrobial agents for agri-food pathogens. , 2021, , 361-386.		1
128	Harnessing CRISPR-Cas system diversity for gene editing technologies. Journal of Biomedical Research, 2021, 35, 91.	0.7	1
129	CRISPR-Cas epigenome editing: improving crop resistance to pathogens. , 2021, , 65-106.		0
130	Next-Generation Sequencing and the CRISPR-Cas Nexus: A Molecular Plant Virology Perspective. Frontiers in Microbiology, 2020, 11, 609376.	1.5	9
131	From genome scissors to molecular scalpel: evolution of CRISPR systems. Biotechnology and Genetic Engineering Reviews, 2021, 37, 82-104.	2.4	3

#	Article	IF	Citations
132	CRISPR technology incorporating amplification strategies: molecular assays for nucleic acids, proteins, and small molecules. Chemical Science, 2021, 12, 4683-4698.	3.7	145
133	Methods | CRISPR-Cas, A Prokaryotic Adaptive Immune System. , 2021, , 717-741.		0
134	Genome editing of immune cells using CRISPR/Cas9. BMB Reports, 2021, 54, 59-69.	1.1	8
135	The Card1 nuclease provides defence during typeÂIII CRISPR immunity. Nature, 2021, 590, 624-629.	13.7	76
136	Recent advances in stem cells and gene editing: Drug discovery and therapeutics. Progress in Molecular Biology and Translational Science, 2021, 181, 231-269.	0.9	6
137	Rewriting CFTR to cure cystic fibrosis. Progress in Molecular Biology and Translational Science, 2021, 182, 185-224.	0.9	8
138	Virusâ€“Host Interactions in Archaea. , 2021, , 387-399.		0
139	COVID-19 one year later: a retrospect of CRISPR-Cas system in combating COVID-19. International Journal of Biological Sciences, 2021, 17, 2080-2088.	2.6	6
140	Robust direct digital-to-biological data storage in living cells. Nature Chemical Biology, 2021, 17, 246-253.	3.9	51
142	CRISPR â€“ Bacterial immune system. , 2021, , 91-105.		0
143	Molekularbiologische Verfahren. , 2021, , 287-328.		0
144	Advances in Point-of-Care Testing Platforms for Diagnosis of Infectious Diseases. , 2021, , .		0
146	CRISPR technologies and the search for the PAM-free nuclease. Nature Communications, 2021, 12, 555.	5.8	148
147	A Small Key for a Heavy Door: Genetic Therapies for the Treatment of Hemoglobinopathies. Frontiers in Genome Editing, 2020, 2, 617780.	2.7	7
148	Mechanisms of spacer acquisition by sequential assembly of the adaptation module in Synechocystis. Nucleic Acids Research, 2021, 49, 2973-2984.	6.5	9
149	Mobile element warfare via CRISPR and anti-CRISPR in Pseudomonas aeruginosa. Nucleic Acids Research, 2021, 49, 2114-2125.	6.5	51
150	Enlarging the Toolbox Against Antimicrobial Resistance: Aptamers and CRISPR-Cas. Frontiers in Microbiology, 2021, 12, 606360.	1.5	6
152	Evaluation of CRISPR Diversity in the Human Skin Microbiome for Personal Identification. MSystems, 2021, 6, .	1.7	12

#	Article	IF	Citations
153	Cas9-directed immune tolerance in humansâ€"a model to evaluate regulatory T cells in gene therapy?. Gene Therapy, 2021, 28, 549-559.	2.3	28
154	Gene-based therapies for neurodegenerative diseases. Nature Neuroscience, 2021, 24, 297-311.	7.1	83
155	The CRISPR ancillary effector Can2 is a dual-specificity nuclease potentiating type III CRISPR defence. Nucleic Acids Research, 2021, 49, 2777-2789.	6.5	46
156	The Art of Being Single. CRISPR Journal, 2021, 4, 16-17.	1.4	3
157	Genomic and Phenotypic Analysis of Multidrug-Resistant Acinetobacter baumannii Clinical Isolates Carrying Different Types of CRISPR/Cas Systems. Pathogens, 2021, 10, 205.	1.2	27
158	Synthetic biology in the clinic: engineering vaccines, diagnostics, and therapeutics. Cell, 2021, 184, 881-898.	13.5	56
159	Anti-CRISPR AcrIF9 functions by inducing the CRISPRâ€"Cas complex to bind DNA non-specifically. Nucleic Acids Research, 2021, 49, 3381-3393.	6.5	22
160	The bridge helix of Cas12a imparts selectivity in cis â€ĐNA cleavage and regulates trans â€ĐNA cleavage. FEBS Letters, 2021, 595, 892-912.	1.3	9
161	Comparative Genomic Analysis of Mycobacteriaceae Reveals Horizontal Gene Transfer-Mediated Evolution of the CRISPR-Cas System in the Mycobacterium tuberculosis Complex. MSystems, 2021, 6, .	1.7	11
163	Scalable characterization of the PAM requirements of CRISPRâ€"Cas enzymes using HT-PAMDA. Nature Protocols, 2021, 16, 1511-1547.	5.5	23
164	Draft Genome Sequence of Enterococcus faecalis AS003, a Strain Possessing All Three Type II-a CRISPR Loci. Microbiology Resource Announcements, 2021, 10, .	0.3	1
165	Role of extremophiles and their extremozymes in biorefinery process of lignocellulose degradation. Extremophiles, 2021, 25, 203-219.	0.9	10
166	The effect of Quorum sensing inhibitors on the evolution of CRISPR-based phage immunity in Pseudomonas aeruginosa. ISME Journal, 2021, 15, 2465-2473.	4.4	22
167	Structural basis for substrate recognition and cleavage by the dimerization-dependent CRISPRâ€"Cas12f nuclease. Nucleic Acids Research, 2021, 49, 4120-4128.	6.5	58
168	Recent advances of Cas12a applications in bacteria. Applied Microbiology and Biotechnology, 2021, 105, 2981-2990.	1.7	16
169	CRISPR/Cas9-Mediated Gene Editing Revolutionizes the Improvement of Horticulture Food Crops. Journal of Agricultural and Food Chemistry, 2021, 69, 13260-13269.	2.4	21
170	Prevalence and Genetic Diversity of Listeria monocytogenes Isolated From Retail Pork in Wuhan, China. Frontiers in Microbiology, 2021, 12, 620482.	1.5	13
171	Streamlining CRISPR spacer-based bacterial host predictions to decipher the viral dark matter. Nucleic Acids Research, 2021, 49, 3127-3138.	6.5	72

#	Article	IF	Citations
173	Novel Strategy to Combat Antibiotic Resistance: A Sight into the Combination of CRISPR/Cas9 and Nanoparticles. Pharmaceutics, 2021, 13, 352.	2.0	36
174	Virus-induced cell gigantism and asymmetric cell division in archaea. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	29
175	Novel CRISPRâ€“Cas Systems: An Updated Review of the Current Achievements, Applications, and Future Research Perspectives. International Journal of Molecular Sciences, 2021, 22, 3327.	1.8	105
176	Practical Approaches for Knock-Out Gene Editing in Pigs. Frontiers in Genetics, 2020, 11, 617850.	1.1	6
177	Leber congenital amaurosis/early-onset severe retinal dystrophy: current management and clinical trials. British Journal of Ophthalmology, 2022, 106, 445-451.	2.1	35
178	Genome editing using CRISPR/Cas9 to treat hereditary hematological disorders. Gene Therapy, 2022, 29, 207-216.	2.3	10
179	Use of Bacteriophage Amended with CRISPR-Cas Systems to Combat Antimicrobial Resistance in the Bacterial Foodborne Pathogen Listeria monocytogenes. Antibiotics, 2021, 10, 308.	1.5	8
181	Structure of a type IV CRISPR-Cas ribonucleoprotein complex. IScience, 2021, 24, 102201.	1.9	23
182	A Tryptophan â€˜Gateâ€™ in the CRISPR-Cas3 Nuclease Controls ssDNA Entry into the Nuclease Site, That When Removed Results in Nuclease Hyperactivity. International Journal of Molecular Sciences, 2021, 22, 2848.	1.8	5
183	crRNA complementarity shifts endogenous CRISPR-Cas systems between transcriptional repression and DNA defense. RNA Biology, 2021, 18, 1560-1573.	1.5	4
187	CRISPR Screens in Synthetic Lethality and Combinatorial Therapies for Cancer. Cancers, 2021, 13, 1591.	1.7	20
188	Review, analysis, and optimization of the CRISPR Streptococcus pyogenes Cas9 system. Medicine in Drug Discovery, 2021, 9, 100080.	2.3	8
189	Ectopic Spacer Acquisition in Streptococcus thermophilus CRISPR3 Array. Microorganisms, 2021, 9, 512.	1.6	7
190	Systematicin vitrospecificity profiling reveals nicking defects in natural and engineered CRISPRâ€“Cas9 variants. Nucleic Acids Research, 2021, 49, 4037-4053.	6.5	10
191	Engineered CRISPR/Cas13d Sensing hTERT Selectively Inhibits the Progression of Bladder Cancer In Vitro. Frontiers in Molecular Biosciences, 2021, 8, 646412.	1.6	14
192	Editing GWAS: experimental approaches to dissect and exploit disease-associated genetic variation. Genome Medicine, 2021, 13, 41.	3.6	32
193	Toxin-antitoxin RNA pairs safeguard CRISPR-Cas systems. Science, 2021, 372, .	6.0	55
194	Targeted DNA insertion in plants. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	56

#	Article	IF	Citations
195	Pruning and Tending Immune Memories: Spacer Dynamics in the CRISPR Array. Frontiers in Microbiology, 2021, 12, 664299.	1.5	34
196	Saccharomyces cerevisiae Synthetic Transcriptional Networks Harnessing dCas12a and Type V-A anti-CRISPR Proteins. ACS Synthetic Biology, 2021, 10, 870-883.	1.9	17
197	ÐœÐ¸ÐºÑ€Ð¾Ð±Ð½Ñ‹Ð¹ Ð°Ñ€ÑÐµÐ½Ð°Ð» Ð¿Ñ€Ð¾Ñ‚Ð¸Ð²Ð¾Ð²Ð¸Ñ€ÑƒÑÐ½Ð¾Ð¹ Ð·Ð°Ñ‰Ð¸Ñ‚Ñ‹. Ð“Ð»Ð°Ð²Ð° II. Biochemistry,	0.7	32
198	CRISPR/Cas-New Molecular Scissors in Diagnostics and Therapeutics of COVID-19. Indian Journal of Clinical Biochemistry, 2021, 36, 459-467.	0.9	8
200	CRISPR/dCas-mediated transcriptional and epigenetic regulation in plants. Current Opinion in Plant Biology, 2021, 60, 101980.	3.5	50
201	Delivery of CRISPR-Cas systems using phage-based vectors. Current Opinion in Biotechnology, 2021, 68, 174-180.	3.3	23
202	Functional Study of the Type II-A CRISPR-Cas System of Streptococcus agalactiae Hypervirulent Strains. CRISPR Journal, 2021, 4, 233-242.	1.4	4
203	Design of Nucleic Acid Biosensors Based on CRISPR/Cas Systems and Reporter Split Proteins. Moscow University Biological Sciences Bulletin, 2021, 76, 52-58.	0.1	2
204	Evolutionary Timeline of Genetic Delivery and Gene Therapy. Current Gene Therapy, 2021, 21, 89-111.	0.9	2
205	Dual modes of CRISPR-associated transposon homing. Cell, 2021, 184, 2441-2453.e18.	13.5	86
206	Microbial Arsenal of Antiviral Defenses. Part II. Biochemistry (Moscow), 2021, 86, 449-470.	0.7	32
207	Advances in Genome Editing and Application to the Generation of Genetically Modified Rat Models. Frontiers in Genetics, 2021, 12, 615491.	1.1	24
208	Cooperation between Different CRISPR-Cas Types Enables Adaptation in an RNA-Targeting System. MBio, 2021, 12, .	1.8	24
209	Genomic diversity and <scp>CRISPRâ€Cas</scp> systems in the cyanobacterium Nostoc in the High Arctic. Environmental Microbiology, 2021, 23, 2955-2968.	1.8	7
210	The NIH Somatic Cell Genome Editing program. Nature, 2021, 592, 195-204.	13.7	84
212	CRISPR/Cas: a Nobel Prize award-winning precise genome editing technology for gene therapy and crop improvement. Journal of Zhejiang University: Science B, 2021, 22, 253-284.	1.3	97
213	CRISPR-Cas systems for diagnosing infectious diseases. Methods, 2022, 203, 431-446.	1.9	60
214	Type III-A CRISPR immunity promotes mutagenesis of staphylococci. Nature, 2021, 592, 611-615.	13.7	29

#	Article	IF	Citations
215	CRISPR-Cas and Its Wide-Ranging Applications: From Human Genome Editing to Environmental Implications, Technical Limitations, Hazards and Bioethical Issues. Cells, 2021, 10, 969.	1.8	15
216	Noncanonical crRNAs derived from host transcripts enable multiplexable RNA detection by Cas9. Science, 2021, 372, 941-948.	6.0	83
217	Engineered Bacteriophage Therapeutics: Rationale, Challenges and Future. BioDrugs, 2021, 35, 255-280.	2.2	62
218	On the Corner of Models and Cure: Gene Editing in Cystic Fibrosis. Frontiers in Pharmacology, 2021, 12, 662110.	1.6	16
219	Structural coordination between active sites of a CRISPR reverse transcriptase-integrase complex. Nature Communications, 2021, 12, 2571.	5.8	12
220	Positioning Diverse Type IV Structures and Functions Within Class 1 CRISPR-Cas Systems. Frontiers in Microbiology, 2021, 12, 671522.	1.5	18
221	Prokaryotic reverse transcriptases: from retroelements to specialized defense systems. FEMS Microbiology Reviews, 2021, 45, .	3.9	16
222	Detect and destroy: CRISPR-based technologies for the response against viruses. Cell Host and Microbe, 2021, 29, 689-703.	5.1	50
223	CRISPR-Cas13 System as a Promising and Versatile Tool for Cancer Diagnosis, Therapy, and Research. ACS Synthetic Biology, 2021, 10, 1245-1267.	1.9	38
225	Primed CRISPR-Cas Adaptation and Impaired Phage Adsorption in Streptococcus mutans. MSphere, 2021, 6, .	1.3	5
226	New Insights into the Therapeutic Applications of CRISPR/Cas9 Genome Editing in Breast Cancer. Genes, 2021, 12, 723.	1.0	12
227	Coevolution between bacterial CRISPR-Cas systems and their bacteriophages. Cell Host and Microbe, 2021, 29, 715-725.	5.1	53
228	The application of genome editing technology in fish. Marine Life Science and Technology, 2021, 3, 326-346.	1.8	9
230	The Challenge of CRISPR-Cas Toward Bioethics. Frontiers in Microbiology, 2021, 12, 657981.	1.5	6
231	Cyclic oligoadenylate signaling and regulation by ring nucleases during type III CRISPR defense. Rna, 2021, 27, 855-867.	1.6	31
232	Genomic Insights into Drug Resistance and Virulence Platforms, CRISPR-Cas Systems and Phylogeny of Commensal E. coli from Wildlife. Microorganisms, 2021, 9, 999.	1.6	4
233	Applications of the CRISPR-Cas system for infectious disease diagnostics. Expert Review of Molecular Diagnostics, 2021, 21, 723-732.	1.5	12
234	CRISPR transposons on the move. Cell Host and Microbe, 2021, 29, 675-677.	5.1	2

#	Article	IF	Citations
235	Decoupling the bridge helix of Cas12a results in a reduced trimming activity, increased mismatch sensitivity and impaired conformational transitions. Nucleic Acids Research, 2021, 49, 5278-5293.	6.5	16
236	Exposure to 1-Butanol Exemplifies the Response of the Thermoacidophilic Archaeon Sulfolobus acidocaldarius to Solvent Stress. Applied and Environmental Microbiology, 2021, 87, .	1.4	8
237	Impacts of type II toxin-antitoxin systems on cell physiology and environmental behavior in acetic acid bacteria. Applied Microbiology and Biotechnology, 2021, 105, 4357-4367.	1.7	5
239	Programmable RNA editing with compact CRISPRâ€“Cas13 systems from uncultivated microbes. Nature Methods, 2021, 18, 499-506.	9.0	182
240	In Vitro Inhibition of Influenza Virus Using CRISPR/Cas13a in Chicken Cells. Methods and Protocols, 2021, 4, 40.	0.9	5
242	CRISPR Adventures in China. CRISPR Journal, 2021, 4, 304-306.	1.4	0
245	Mechanistic insights into the R-loop formation and cleavage in CRISPR-Cas12i1. Nature Communications, 2021, 12, 3476.	5.8	22
246	Genome editing in mammalian cells using the CRISPR type I-D nuclease. Nucleic Acids Research, 2021, 49, 6347-6363.	6.5	29
247	Genome editing in plants with MAD7 nuclease. Journal of Genetics and Genomics, 2021, 48, 444-451.	1.7	25
248	Comparative Genomics of Closely Related Tetragenococcus halophilus Strains Elucidate the Diversity and Microevolution of CRISPR Elements. Frontiers in Microbiology, 2021, 12, 687985.	1.5	5
249	Programmable RNA N¹â€Methyladenosine Demethylation by a Cas13dâ€Directed Demethylase. Angewandte Chemie - International Edition, 2021, 60, 19592-19597.	7.2	21
250	The CRISPR Patent Landscape: Focus on Chinese Researchers. CRISPR Journal, 2021, 4, 339-349.	1.4	4
252	Structure-based functional mechanisms and biotechnology applications of anti-CRISPR proteins. Nature Reviews Molecular Cell Biology, 2021, 22, 563-579.	16.1	56
253	<tt>CRISPRloci:</tt>Âcomprehensive and accurate annotation of CRISPRâ€“Cas systems. Nucleic Acids Research, 2021, 49, W125-W130.	6.5	16
254	Plant biotechnology for sustainable agriculture and food safety. Journal of Plant Physiology, 2021, 261, 153416.	1.6	7
255	Epigenetic Editing in Prostate Cancer: Challenges and Opportunities. Epigenetics, 2022, 17, 564-588.	1.3	4
256	CRISPR-Associated (CAS) Effectors Delivery via Microfluidic Cell-Deformation Chip. Materials, 2021, 14, 3164.	1.3	10
257	Evotuning protocols for Transformer-based variant effect prediction on multi-domain proteins. Briefings in Bioinformatics, 2021, 22, .	3.2	7

#	Article	IF	Citations
258	Exploiting DNA Endonucleases to Advance Mechanisms of DNA Repair. Biology, 2021, 10, 530.	1.3	7
259	Repurposing CRISPR-Cas Systems as Genetic Tools for the Enterobacteriales. EcoSal Plus, 2021, 9, eESP00062020.	2.1	2
260	Diversification of the CRISPR Toolbox: Applications of CRISPR-Cas Systems Beyond Genome Editing. CRISPR Journal, 2021, 4, 400-415.	1.4	5
262	CRISPR/Cas based gene editing: marking a new era in medical science. Molecular Biology Reports, 2021, 48, 4879-4895.	1.0	9
263	Programmable RNA N 1 â€Methyladenosine Demethylation by a Cas13dâ€Directed Demethylase. Angewandte Chemie, 2021, 133, 19744-19749.	1.6	3
265	Impact of CRISPR-Cas9-Based Genome Engineering in Farm Animals. Veterinary Sciences, 2021, 8, 122.	0.6	16
266	Genome analysis of Pseudomonas sp. OF001 and Rubrivivax sp. A210 suggests multicopper oxidases catalyze manganese oxidation required for cylindrospermopsin transformation. BMC Genomics, 2021, 22, 464.	1.2	1
267	A more efficient CRISPR-Cas12a variant derived from Lachnospiraceae bacterium MA2020. Molecular Therapy - Nucleic Acids, 2021, 24, 40-53.	2.3	19
268	CRISPR Genome Editing Technology: A Powerful Tool Applied to Developing Agribusiness. Journal of Agricultural and Food Chemistry, 2021, 69, 6379-6395.	2.4	10
269	Analysis of conventional and alternative CRISPR/Cas9 genome editing to enhance a single-base pair knock-in mutation. BMC Biotechnology, 2021, 21, 45.	1.7	2
270	Improved CRISPR genome editing using small highly active and specific engineered RNA-guided nucleases. Nature Communications, 2021, 12, 4219.	5.8	29
272	Analysis of CRISPR systems of types II-A, I-E and I-C in strains of Lacticaseibacillus. International Dairy Journal, 2021, 118, 105027.	1.5	1
273	Duplex-Specific Nuclease-Assisted CRISPR-Cas12a Strategy for MicroRNA Detection Using a Personal Glucose Meter. Analytical Chemistry, 2021, 93, 10719-10726.	3.2	72
274	Signal amplification and output of CRISPR/Cas-based biosensing systems: A review. Analytica Chimica Acta, 2021, 1185, 338882.	2.6	69
277	Induced Genetic Variations in Fruit Trees Using New Breeding Tools: Food Security and Climate Resilience. Plants, 2021, 10, 1347.	1.6	13
278	ĐŸĐ¾Đ»ÑƒÑ‡ĐµĐ½Đ¸Đµ Ñ‚Ñ€Đ°Đ½ÑĐ³ĐµĐ½Đ½Ñ‹Ñ… ÑĐ¼Đ±Ñ€Đ¸Đ¾Đ½Đ°Đ»ÑŒĐ½Ñ‹Ñ… ÑÑ‚Đ²Đ¾Đ»Đ¾Đ²Ñ‹Ñ… ĐºĐ»Đ		
280	Long Non-Coding RNAs in the Tumor Immune Microenvironment: Biological Properties and Therapeutic Potential. Frontiers in Immunology, 2021, 12, 697083.	2.2	33
281	Get ready for the CRISPR/Cas system: A beginner's guide to the engineering and design of guide RNAs. Journal of Gene Medicine, 2021, 23, e3377.	1.4	3

#	Article	IF	Citations
285	Acinetobacter defence mechanisms against biological aggressors and their use as alternative therapeutic applications. Critical Reviews in Microbiology, 2022, 48, 21-41.	2.7	3
286	Generation of Transgenic Rat Embryonic Stem Cells Using the CRISPR/Cpf1 System for Inducible Gene Knockout. Biochemistry (Moscow), 2021, 86, 843-851.	0.7	0
287	CRISPR-based diagnostics. Nature Biomedical Engineering, 2021, 5, 643-656.	11.6	492
288	CRISPR/Cas-Based Epigenome Editing: Advances, Applications, and Clinical Utility. Trends in Biotechnology, 2021, 39, 678-691.	4.9	47
290	Rapid and sensitive RPA-Cas12a-fluorescence assay for point-of-care detection of African swine fever virus. PLoS ONE, 2021, 16, e0254815.	1.1	17
291	Diverse ATPase Proteins in Mobilomes Constitute a Large Potential Sink for Prokaryotic Host ATP. Frontiers in Microbiology, 2021, 12, 691847.	1.5	11
292	The Application of CRISPR/Cas9 Technology in the Management of Genetic and Nongenetic Plant Traits. International Journal of Agronomy, 2021, 2021, 1-9.	0.5	3
293	A distinct structure of Cas1â€“Cas2 complex provides insights into the mechanism for the longer spacer acquisition in Pyrococcus furiosus. International Journal of Biological Macromolecules, 2021, 183, 379-386.	3.6	3
294	Genomic diversity and ecology of human-associated Akkermansia species in the gut microbiome revealed by extensive metagenomic assembly. Genome Biology, 2021, 22, 209.	3.8	65
295	DNA Repair Pathway Choices in CRISPR-Cas9-Mediated Genome Editing. Trends in Genetics, 2021, 37, 639-656.	2.9	126
297	Harnessing the CRISPR-Cas Systems to Combat Antimicrobial Resistance. Frontiers in Microbiology, 2021, 12, 716064.	1.5	27
299	Functional Identification of the Xanthomonas oryzae pv. oryzae Type I-C CRISPR-Cas System and Its Potential in Gene Editing Application. Frontiers in Microbiology, 2021, 12, 686715.	1.5	3
300	Structural basis of target DNA recognition by CRISPR-Cas12k for RNA-guided DNA transposition. Molecular Cell, 2021, 81, 4457-4466.e5.	4.5	29
302	Global overview and major challenges of host prediction methods for uncultivated phages. Current Opinion in Virology, 2021, 49, 117-126.	2.6	49
303	Insights into the dual functions of AcrIF14 during the inhibition of type I-F CRISPRâ€“Cas surveillance complex. Nucleic Acids Research, 2021, 49, 10178-10191.	6.5	9
304	Fishing for phages in metagenomes: what do we catch, what do we miss?. Current Opinion in Virology, 2021, 49, 142-150.	2.6	10
305	CRISPR/Cas-Based In Vitro Diagnostic Platforms for Cancer Biomarker Detection. Analytical Chemistry, 2021, 93, 11899-11909.	3.2	54
306	Multiplex Genome Editing in Yeast by CRISPR/Cas9 â€“ A Potent and Agile Tool to Reconstruct Complex Metabolic Pathways. Frontiers in Plant Science, 2021, 12, 719148.	1.7	26

#	Article	IF	Citations
307	Porphyromonas gingivalis Outer Membrane Vesicles as the Major Driver of and Explanation for Neuropathogenesis, the Cholinergic Hypothesis, Iron Dyshomeostasis, and Salivary Lactoferrin in Alzheimerâ€™s Disease. Journal of Alzheimer's Disease, 2021, 82, 1417-1450.	1.2	26
308	Genome editing by miniature CRISPR/Cas12f1 enzyme in Escherichia coli. Journal of Bioscience and Bioengineering, 2021, 132, 120-124.	1.1	11
309	Allosteric regulation in CRISPR/Cas1-Cas2 protospacer acquisition mediated by DNA and Cas2. Biophysical Journal, 2021, 120, 3126-3137.	0.2	1
310	Bacterial resistance to CRISPR-Cas antimicrobials. Scientific Reports, 2021, 11, 17267.	1.6	28
311	CRISPR-Cas systems in Proteus mirabilis. Infection, Genetics and Evolution, 2021, 92, 104881.	1.0	2
312	Genomic Analysis of Antibiotic-Resistant Staphylococcus epidermidis Isolates From Clinical Sources in the Kwazulu-Natal Province, South Africa. Frontiers in Microbiology, 2021, 12, 656306.	1.5	11
313	SCOPE enables type III CRISPR-Cas diagnostics using flexible targeting and stringent CARF ribonuclease activation. Nature Communications, 2021, 12, 5033.	5.8	57
314	The endless battle between phages and CRISPRâ€“Cas systems in Streptococcus thermophilus. Biochemistry and Cell Biology, 2021, 99, 397-402.	0.9	3
315	DNA interference states of the hypercompact CRISPRâ€“Casî¦ effector. Nature Structural and Molecular Biology, 2021, 28, 652-661.	3.6	50
316	Accelerated RNA detection using tandem CRISPR nucleases. Nature Chemical Biology, 2021, 17, 982-988.	3.9	135
317	Enhanced genome editing efficiency of CRISPR PLUS: Cas9 chimeric fusion proteins. Scientific Reports, 2021, 11, 16199.	1.6	12
318	CRISPRclassify: Repeat-Based Classification of CRISPR Loci. CRISPR Journal, 2021, 4, 558-574.	1.4	12
319	Sequence specific integration by the family 1 casposase from Candidatus Nitrosopumilus koreensisÂAR1. Nucleic Acids Research, 2021, 49, 9938-9952.	6.5	0
320	Compact RNA editors with small Cas13 proteins. Nature Biotechnology, 2022, 40, 194-197.	9.4	86
321	The Rsm (Csr) post-transcriptional regulatory pathway coordinately controls multiple CRISPRâ€“Cas immune systems. Nucleic Acids Research, 2021, 49, 9508-9525.	6.5	9
322	Application of CRISPR-Cas9 Editing for Virus Engineering and the Development of Recombinant Viral Vaccines. CRISPR Journal, 2021, 4, 477-490.	1.4	8
323	The tracrRNA in CRISPR Biology and Technologies. Annual Review of Genetics, 2021, 55, 161-181.	3.2	27
324	Applications of the versatile <scp>CRISPRâ€Cas13 RNA</scp> targeting system. Wiley Interdisciplinary Reviews RNA, 2022, 13, e1694.	3.2	26

#	Article	IF	Citations
325	An Inventory of Diagnostic Tools for Detection of COVID-19. Current Molecular Medicine, 2022, 22, 608-620.	0.6	3
326	Divergent degeneration ofcreAantitoxin genes from minimal CRISPRs and the convergent strategy of tRNA-sequestering CreT toxins. Nucleic Acids Research, 2021, 49, 10677-10688.	6.5	11
327	Molecular allergology approach to allergic asthma. Molecular Aspects of Medicine, 2022, 85, 101027.	2.7	9
328	PAM-repeat associations and spacer selection preferences in single and co-occurring CRISPR-Cas systems. Genome Biology, 2021, 22, 281.	3.8	26
329	Digging into the lesser-known aspects of CRISPR biology. International Microbiology, 2021, 24, 473-498.	1.1	10
331	Viral recombination systems limit CRISPR-Cas targeting through the generation of escape mutations. Cell Host and Microbe, 2021, 29, 1482-1495.e12.	5.1	12
332	Programmed genome editing by a miniature CRISPR-Cas12f nuclease. Nature Chemical Biology, 2021, 17, 1132-1138.	3.9	121
333	Application of CHyMErA Cas9-Cas12a combinatorial genome-editing platform for genetic interaction mapping and gene fragment deletion screening. Nature Protocols, 2021, 16, 4722-4765.	5.5	8
334	The gRAMP CRISPR-Cas effector is an RNA endonuclease complexed with a caspase-like peptidase. Science, 2021, 373, 1349-1353.	6.0	76
335	Characterization of Blf4, an Archaeal Lytic Virus Targeting a Member of the Methanomicrobiales. Viruses, 2021, 13, 1934.	1.5	8
336	Mechanisms and clinical importance of bacteriophage resistance. FEMS Microbiology Reviews, 2022, 46, .	3.9	92
337	Mechanism for Cas4-assisted directional spacer acquisition in CRISPRâ€“Cas. Nature, 2021, 598, 515-520.	13.7	29
338	CRISPR/Cas13-Based Platforms for a Potential Next-Generation Diagnosis of Colorectal Cancer through Exosomes Micro-RNA Detection: A Review. Cancers, 2021, 13, 4640.	1.7	15
339	Points of View on the Tools for Genome/Gene Editing. International Journal of Molecular Sciences, 2021, 22, 9872.	1.8	10
340	Exploration of the Diversity of Clustered Regularly Interspaced Short Palindromic Repeats-Cas Systems in Clostridium novyi sensu lato. Frontiers in Microbiology, 2021, 12, 711413.	1.5	1
341	Structural and biochemical insights into CRISPR RNA processing by the Cas5c ribonuclease SMU1763 from Streptococcus mutans. Journal of Biological Chemistry, 2021, 297, 101251.	1.6	2
342	Evolution of Type IV CRISPR-Cas Systems: Insights from CRISPR Loci in Integrative Conjugative Elements of Acidithiobacillia. CRISPR Journal, 2021, 4, 656-672.	1.4	21
343	Programmable RNA targeting with the single-protein CRISPR effector Cas7-11. Nature, 2021, 597, 720-725.	13.7	155

#	Article	IF	Citations
345	Unexpected genomic features of high current density-producing Geobacter sulfurreducens strain YM18. FEMS Microbiology Letters, 2021, 368, .	0.7	8
346	Investigation into the prevalent CRISPRâ€“Cas systems among the Aeromonas genus. Journal of Basic Microbiology, 2021, 61, 874-882.	1.8	1
347	Functional Characterization of Type III-A CRISPR-Cas in a Clinical Human Methicillin-R Staphylococcus aureus Strain. CRISPR Journal, 2021, 4, 686-698.	1.4	4
348	Cas14a1-mediated nucleic acid detectifon platform for pathogens. Biosensors and Bioelectronics, 2021, 189, 113350.	5.3	42
349	The widespread IS200/IS605 transposon family encodes diverse programmable RNA-guided endonucleases. Science, 2021, 374, 57-65.	6.0	152
350	Paper-based analytical devices for virus detection: Recent strategies for current and future pandemics. TrAC - Trends in Analytical Chemistry, 2021, 144, 116424.	5.8	44
351	Autocatalytic-protection for an unknown locus CRISPR-Cas countermeasure for undesired mutagenic chain reactions. Journal of Theoretical Biology, 2021, 528, 110831.	0.8	0
352	CRISPR-Cas Systems in Starter Cultures. , 2022, , 103-112.		1
353	The evolution and history of gene editing technologies. Progress in Molecular Biology and Translational Science, 2021, 178, 1-62.	0.9	7
354	The Cyclic Oligoadenylate Signaling Pathway of Type III CRISPR-Cas Systems. Frontiers in Microbiology, 2020, 11, 602789.	1.5	9
355	CRISPR based development of RNA editing and the diagnostic platform. Progress in Molecular Biology and Translational Science, 2021, 179, 117-159.	0.9	0
356	The Rcs stress response inversely controls surface and CRISPRâ€“Cas adaptive immunity to discriminate plasmids and phages. Nature Microbiology, 2021, 6, 162-172.	5.9	32
357	Natural Competence and Horizontal Gene Transfer in Campylobacter. Current Topics in Microbiology and Immunology, 2021, 431, 265-292.	0.7	14
358	CRISPR screens in the era of microbiomes. Current Opinion in Microbiology, 2020, 57, 70-77.	2.3	15
359	Novel molecular aspects of the CRISPR backbone protein â€˜Cas7â€™ from cyanobacteria. Biochemical Journal, 2020, 477, 971-983.	1.7	9
360	CRISPR Arrays Away from cas Genes. CRISPR Journal, 2020, 3, 535-549.	1.4	18
361	Casboundary: automated definition of integral Cas cassettes. Bioinformatics, 2021, 37, 1352-1359.	1.8	8
362	CRISPR sequences are sometimes erroneously translated and can contaminate public databases with spurious proteins containing spaced repeats. Database: the Journal of Biological Databases and Curation, 2020, 2020, .	1.4	4

#	Article	IF	Citations
363	Analysis of a photosynthetic cyanobacterium rich in internal membrane systems via gradient profiling by sequencing (Grad-seq). Plant Cell, 2021, 33, 248-269.	3.1	26
364	Sporofaciens musculi gen. nov., sp. nov., a novel bacterium isolated from the caecum of an obese mouse. International Journal of Systematic and Evolutionary Microbiology, 2019, 71, .	0.8	15
379	A most formidable arsenal: genetic technologies for building a better mouse. Genes and Development, 2020, 34, 1256-1286.	2.7	24
380	Virulence of the Pathogen Porphyromonas gingivalis Is Controlled by the CRISPR-Cas Protein Cas3. MSystems, 2020, 5, .	1.7	19
381	An RNA-centric view on gut Bacteroidetes. Biological Chemistry, 2020, 402, 55-72.	1.2	11
382	Genome editing technologies: CRISPR, LEAPER, RESTORE, ARCUT, SATI, and RESCUE. EXCLI Journal, 2021, 20, 19-45.	0.5	6
383	CRISPR-Cas12a exploits R-loop asymmetry to form double-strand breaks. ELife, 2020, 9, .	2.8	80
384	The dynamic interplay of host and viral enzymes in type III CRISPR-mediated cyclic nucleotide signalling. ELife, 2020, 9, .	2.8	41
385	Structural basis of cyclic oligoadenylate degradation by ancillary Type III CRISPR-Cas ring nucleases. Nucleic Acids Research, 2021, 49, 12577-12590.	6.5	10
386	Attomolar analyte sensing techniques (AttoSens): a review on a decade of progress on chemical and biosensing nanoplatforms. Chemical Society Reviews, 2021, 50, 13012-13089.	18.7	25
387	The novel anti-CRISPR AcrIIA22 relieves DNA torsion in target plasmids and impairs SpyCas9 activity. PLoS Biology, 2021, 19, e3001428.	2.6	13
389	Immune lag is a major cost of prokaryotic adaptive immunity during viral outbreaks. Proceedings of the Royal Society B: Biological Sciences, 2021, 288, 20211555.	1.2	5
390	Genome Editing Strategies to Protect Livestock from Viral Infections. Viruses, 2021, 13, 1996.	1.5	6
391	Identification of RNA Binding Partners of CRISPR-Cas Proteins in Prokaryotes Using RIP-Seq. Methods in Molecular Biology, 2022, 2404, 111-133.	0.4	1
392	Comparison of CRISPRâ€“Cas Immune Systems in Healthcare-Related Pathogens. Frontiers in Microbiology, 2021, 12, 758782.	1.5	16
393	Comparative Genomic Analysis and a Novel Set of Missense Mutation of the Leptospira weilii Serogroup Mini From the Urine of Asymptomatic Dogs in Thailand. Frontiers in Microbiology, 2021, 12, 731937.	1.5	1
394	Current and Future Prospects for Gene Therapy for Rare Genetic Diseases Affecting the Brain and Spinal Cord. Frontiers in Molecular Neuroscience, 2021, 14, 695937.	1.4	39
395	Structural insights into the inactivation of the type I-F CRISPR-Cas system by anti-CRISPR proteins. RNA Biology, 2021, 18, 562-573.	1.5	7

#	Article	IF	Citations
396	Determination of Factors Driving the Genome Editing Field in the CRISPR Era Using Bibliometrics. CRISPR Journal, 2021, 4, 728-738.	1.4	3
397	Type III CRISPR-Cas Systems: Deciphering the Most Complex Prokaryotic Immune System. Biochemistry (Moscow), 2021, 86, 1301-1314.	0.7	26
398	Characterization of 67 Confirmed Clustered Regularly Interspaced Short Palindromic Repeats Loci in 52 Strains of Staphylococci. Frontiers in Microbiology, 2021, 12, 736565.	1.5	5
399	Antibiotic resistance in microbes: History, mechanisms, therapeutic strategies and future prospects. Journal of Infection and Public Health, 2021, 14, 1750-1766.	1.9	286
400	Transposon-associated TnpB is a programmable RNA-guided DNA endonuclease. Nature, 2021, 599, 692-696.	13.7	125
401	CRISPR-Cas systems are widespread accessory elements across bacterial and archaeal plasmids. Nucleic Acids Research, 2022, 50, 4315-4328.	6.5	44
402	Ð'Ð¸Ð»Ð¾Ð³ÐµÐ½Ñ‡ÐµÑÐ°Ñ•Ñ€Ð³Ð¾Ñ Ð¸ Ñ²Ð¾Ð»ÑŽÑ†Ð¸Ð¾Ð½Ð½Ð¾Ð¹ CRISPR-Cas Ñ‚Ð¸Ð¿Ð		
403	Cas12a variants designed for lower genome-wide off-target effect through stringent PAM recognition. Molecular Therapy, 2022, 30, 244-255.	3.7	11
404	Characterization of a mcr-1 and CRISPR-Cas System Co-harboring Plasmid in a Carbapenemase-Producing High-Risk ST11 Klebsiella pneumoniae Strain. Frontiers in Microbiology, 2021, 12, 762947.	1.5	3
405	Correlation between type IIIA CRISPRâ€“Cas system and SCCmec in Staphylococcus epidermidis. Archives of Microbiology, 2021, 203, 6275-6286.	1.0	1
406	Gene editing to enhance the efficacy of cancer cell therapies. Molecular Therapy, 2021, 29, 3153-3162.	3.7	5
407	Comparative genome analysis of the genus Hydrotalea and proposal of the novel species Hydrotalea lipotrueae sp. nov., isolated from a groundwater aquifer in the south of Mallorca Island, Spain. Systematic and Applied Microbiology, 2021, 44, 126277.	1.2	7
408	CRISPR/Cas12a and immuno-RCA based electrochemical biosensor for detecting pathogenic bacteria. Journal of Electroanalytical Chemistry, 2021, 901, 115755.	1.9	36
414	Structural basis for anti-CRISPR repression mediated by bacterial operon proteins Aca1 and Aca2. Journal of Biological Chemistry, 2021, 297, 101357.	1.6	7
415	Advances and insights in the diagnosis of viral infections. Journal of Nanobiotechnology, 2021, 19, 348.	4.2	52
416	Advances in Field Detection Based on CRISPR/Cas System. ACS Synthetic Biology, 2021, 10, 2824-2832.	1.9	11
417	CRISPR Tackles Emerging Viral Pathogens. Viruses, 2021, 13, 2157.	1.5	6
418	An Outlook on Global Regulatory Landscape for Genome-Edited Crops. International Journal of Molecular Sciences, 2021, 22, 11753.	1.8	43

#	Article	IF	Citations
419	Ultra-specific nucleic acid testing by target-activated nucleases. Critical Reviews in Biotechnology, 2022, 42, 1061-1078.	5.1	6
420	Genome editing from Cas9 to IscB: Backwards and forwards towards new breakthroughs. Engineering Microbiology, 2021, 1, 100004.	2.2	1
421	Bacteriophage as a Therapeutic Agent to Combat Bacterial Infection: A Journey from History to Application. , 2020, , 347-370.		0
424	Cell-free protein synthesis of CRISPR ribonucleoproteins (RNP). Methods in Enzymology, 2021, 659, 371-389.	0.4	2
426	CRISPR/Cas9-Induced DNA Damage Enriches for Mutations in a p53-Linked Interactome: Implications for CRISPR-Based Therapies. Cancer Research, 2022, 82, 36-45.	0.4	19
427	CRISPR-dependent endogenous gene regulation is required for virulence in piscine Streptococcus agalactiae. Emerging Microbes and Infections, 2021, 10, 1-53.	3.0	7
428	New Type III CRISPR variant and programmable RNA targeting tool: Oh, thank heaven for Cas7-11. Molecular Cell, 2021, 81, 4354-4356.	4.5	11
430	Orthogonal CRISPR-Cas tools for genome editing, inhibition, and CRISPR recording in zebrafish embryos. Genetics, 2022, 220, .	1.2	11
435	Efficient target cleavage by Type V Cas12a effectors programmed with split CRISPR RNA. Nucleic Acids Research, 2022, 50, 1162-1173.	6.5	18
436	Inhibition mechanisms of CRISPR-Cas9 by AcrIIA17 and AcrIIA18. Nucleic Acids Research, 2022, 50, 512-521.	6.5	17
437	The dynamicity of light-up aptamers in one-pot in vitro diagnostic assays. Analyst, The, 2021, , .	1.7	3
438	Application of CRISPRâ€“Cas9 in plantâ€“plant growth-promoting rhizobacteria interactions for next Green Revolution. 3 Biotech, 2021, 11, 492.	1.1	3
440	CRISPR meets caspase. Nature Microbiology, 2021, 6, 1481-1482.	5.9	4
442	Applications of CRISPR-Cas Technologies to Proteomics. Genes, 2021, 12, 1790.	1.0	5
443	Bacteriophages and phage-delivered CRISPR-Cas system as antibacterial therapy. International Journal of Antimicrobial Agents, 2022, 59, 106475.	1.1	13
444	Harnessing CRISPR-Cas to Combat COVID-19: From Diagnostics to Therapeutics. Life, 2021, 11, 1210.	1.1	10
445	Potential Use of CRISPR/Cas13 Machinery in Understanding Virusâ€“Host Interaction. Frontiers in Microbiology, 2021, 12, 743580.	1.5	9
446	Metagenomic discovery of CRISPR-associated transposons. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	3.3	38

#	Article	IF	Citations
449	Remarkably coherent population structure for a dominant Antarctic Chlorobium species. Microbiome, 2021, 9, 231.	4.9	5
450	Prophage integration into CRISPR loci enables evasion of antiviral immunity in Streptococcus pyogenes. Nature Microbiology, 2021, 6, 1516-1525.	5.9	34
451	Current Advances Toward the Encapsulation of Cas9. ACS Macro Letters, 2021, 10, 1576-1589.	2.3	7
452	Tracing CRISPR/Cas12a Mediated Genome Editing Events in Apple Using High-Throughput Genotyping by PCR Capillary Gel Electrophoresis. International Journal of Molecular Sciences, 2021, 22, 12611.	1.8	9
453	A Campylobacter integrative and conjugative element with a CRISPR-Cas9 system targeting competing plasmids: a history of plasmid warfare?. Microbial Genomics, 2021, 7, .	1.0	6
454	High viral abundance and low diversity are associated with increased CRISPR-Cas prevalence across microbial ecosystems. Current Biology, 2022, 32, 220-227.e5.	1.8	23
455	Coordinated Actions of Cas9 HNH and RuvC Nuclease Domains Are Regulated by the Bridge Helix and the Target DNA Sequence. Biochemistry, 2021, , .	1.2	11
457	Introduction: the secret lives of microbial mobile genetic elements. Philosophical Transactions of the Royal Society B: Biological Sciences, 2022, 377, 20200460.	1.8	11
458	Modulating CRISPR/Cas9 genome-editing activity by small molecules. Drug Discovery Today, 2022, 27, 951-966.	3.2	12
459	Tumor microenvironment based stimuli-responsive CRISPR/Cas delivery systems: A viable platform for interventional approaches. Colloids and Surfaces B: Biointerfaces, 2022, 210, 112257.	2.5	9
461	The power and the promise of CRISPR/Cas9 genome editing for clinical application with gene therapy. Journal of Advanced Research, 2022, 40, 135-152.	4.4	16
462	The Miniature CRISPR-Cas12m Effector Binds DNA To Block Transcription. SSRN Electronic Journal, 0, , .	0.4	0
463	The selfish environment meets the selfish gene: Coevolution and inheritance of RNA and DNA pools. BioEssays, 2022, 44, e2100239.	1.2	2
464	Alternative functions of CRISPRâ€“Cas systems in the evolutionary arms race. Nature Reviews Microbiology, 2022, 20, 351-364.	13.6	44
465	CRISPR/Cas gene-editing technology and its advances in dentistry. Biochimie, 2022, 194, 96-107.	1.3	6
466	Structural and Mechanistic Insight into CRISPR-Cas9 Inhibition by Anti-CRISPR Protein AcrIIC4. Journal of Molecular Biology, 2022, 434, 167420.	2.0	6
467	Clostridioides difficile â€“ phage relationship the RNA way. Current Opinion in Microbiology, 2022, 66, 1-10.	2.3	3
468	Visualization Analysis of CRISPR Gene-editing Knowledge Map based on Citespace. Biology Bulletin, 2021, 48, 705-720.	0.1	7

#	Article	IF	Citations
469	Towards application of CRISPR-Cas12a in the design of modern viral DNA detection tools (Review). Journal of Nanobiotechnology, 2022, 20, 41.	4.2	47
470	Methodologies in visualizing the activation of CRISPR/Cas: The last mile in developing CRISPR-Based diagnostics and biosensing â€“ A review. Analytica Chimica Acta, 2022, 1205, 339541.	2.6	20
471	Expanding the plant genome editing toolbox with recently developed CRISPRâ€“Cas systems. Plant Physiology, 2022, 188, 1825-1837.	2.3	39
472	The CRISPR-Cas toolbox and gene editing technologies. Molecular Cell, 2022, 82, 333-347.	4.5	151
473	Structure and mechanism of the RNA dependent RNase Cas13a from Rhodobacter capsulatus. Communications Biology, 2022, 5, 71.	2.0	6
476	OUP accepted manuscript. Nucleic Acids Research, 2022, , .	6.5	5
477	CRISPR/Cas: The New Frontier in Plant Improvement. ACS Agricultural Science and Technology, 2022, 2, 202-214.	1.0	4
478	Different modes of spacer acquisition by the Staphylococcus epidermidis type III-A CRISPR-Cas system. Nucleic Acids Research, 2022, 50, 1661-1672.	6.5	7
479	Evolutionary and mechanistic diversity of Type I-F CRISPR-associated transposons. Molecular Cell, 2022, 82, 616-628.e5.	4.5	36
481	Distribution, Diversity and Roles of CRISPR-Cas Systems in Human and Animal Pathogenic Streptococci. Frontiers in Microbiology, 2022, 13, 828031.	1.5	5
482	The Involvement of the csy1 Gene in the Antimicrobial Resistance of Acinetobacter baumannii. Frontiers in Medicine, 2022, 9, 797104.	1.2	6
483	Interaction of Bare dSpCas9, Scaffold gRNA, and Type II Anti-CRISPR Proteins Highly Favors the Control of Gene Expression in the Yeast S. cerevisiae. ACS Synthetic Biology, 2022, 11, 176-190.	1.9	11
484	CS-Cells: A CRISPR-Cas12 DNA Device to Generate Chromosome-Shredded Cells for Efficient and Safe Molecular Biomanufacturing. ACS Synthetic Biology, 2022, 11, 430-440.	1.9	1
485	Evolutionary plasticity and functional versatility of CRISPR systems. PLoS Biology, 2022, 20, e3001481.	2.6	47
486	Double nicking by RNA-directed Cascade-nCas3 for high-efficiency large-scale genome engineering. Open Biology, 2022, 12, 210241.	1.5	9
487	CRISPR-based genome editing through the lens of DNA repair. Molecular Cell, 2022, 82, 348-388.	4.5	90
488	How to Find the Right RNA-Sensing CRISPR-Cas System for an In Vitro Application. Biosensors, 2022, 12, 53.	2.3	5
489	A TXTL-Based Assay to Rapidly Identify PAMs for CRISPR-Cas Systems with Multi-Protein Effector Complexes. Methods in Molecular Biology, 2022, 2433, 391-411.	0.4	1

#	Article	IF	Citations
490	Repurposing the Homing Endonuclease I-SceI for Positive Selection and Development of Gene-Editing Technologies. ACS Synthetic Biology, 2022, 11, 53-60.	1.9	5
491	Turning CRISPR on with antibiotics. Cell Host and Microbe, 2022, 30, 12-14.	5.1	2
492	Cas11 enables genome engineering in human cells with compact CRISPR-Cas3 systems. Molecular Cell, 2022, 82, 852-867.e5.	4.5	40
493	Structural principles of CRISPR-Cas enzymes used in nucleic acid detection. Journal of Structural Biology, 2022, 214, 107838.	1.3	8
494	Challenges of CRISPR-Based Gene Editing in Primary T Cells. International Journal of Molecular Sciences, 2022, 23, 1689.	1.8	10
495	The Clustered Regularly Interspaced Short Palindromic Repeats-Associated System and Its Relationship With Mobile Genetic Elements in Klebsiella. Frontiers in Microbiology, 2021, 12, 790673.	1.5	4
496	Interspecies transfer of plasmid-borne gentamicin resistance between Staphylococcus isolated from domestic dogs to Staphylococcus aureus. Infection, Genetics and Evolution, 2022, 98, 105230.	1.0	8
497	Discovery of potent and versatile CRISPRâ€“Cas9 inhibitors engineered for chemically controllable genome editing. Nucleic Acids Research, 2022, 50, 2836-2853.	6.5	22
498	Diplocloster agilis gen. nov., sp. nov. and Diplocloster modestus sp. nov., two novel anaerobic fermentative members of Lachnospiraceae isolated from human faeces. International Journal of Systematic and Evolutionary Microbiology, 2022, 72, .	0.8	10
499	CRISPR-Cas system in microbial hosts for terpenoid production. Critical Reviews in Biotechnology, 2022, 42, 1116-1133.	5.1	3
500	Quorum Sensing Controls the CRISPR and Type VI Secretion Systems in Aliivibrio wodanis 06/09/139. Frontiers in Veterinary Science, 2022, 9, 799414.	0.9	7
501	Advances in amplification-free detection of nucleic acid: CRISPR/Cas system as a powerful tool. Analytical Biochemistry, 2022, 643, 114593.	1.1	29
502	Neiella holothuriorum sp. nov., isolated from the gut of a sea cucumber Apostichopus japonicus. Antonie Van Leeuwenhoek, 2022, 115, 497-503.	0.7	2
503	Cleavage of viral DNA by restriction endonucleases stimulates the type II CRISPR-Cas immune response. Molecular Cell, 2022, 82, 907-919.e7.	4.5	29
504	Strategies for High-Efficiency Mutation Using the CRISPR/Cas System. Frontiers in Cell and Developmental Biology, 2021, 9, 803252.	1.8	10
505	Gene Editing with CRISPR/Cas Methodology and Thyroid Cancer: Where Are We?. Cancers, 2022, 14, 844.	1.7	5
506	CRISPR Approaches for the Diagnosis of Human Diseases. International Journal of Molecular Sciences, 2022, 23, 1757.	1.8	9
507	Cooperation and competition between CRISPR- and omics-based technologies in foodborne pathogens detection: a state of the art review. Current Opinion in Food Science, 2022, 44, 100813.	4.1	22

#	Article	IF	Citations
508	Cyclic Tetra-Adenylate (cA4) Recognition by Csa3; Implications for an Integrated Class 1 CRISPR-Cas Immune Response in Saccharolobus solfataricus. Biomolecules, 2021, 11, 1852.	1.8	6
509	Unique properties of spacer acquisition by the type III-A CRISPR-Cas system. Nucleic Acids Research, 2022, 50, 1562-1582.	6.5	8
510	Cargo Genes of Tn 7 -Like Transposons Comprise an Enormous Diversity of Defense Systems, Mobile Genetic Elements, and Antibiotic Resistance Genes. MBio, 2021, 12, e0293821.	1.8	34
511	Current Trends of SARS-CoV-2 and its New Variants Diagnostics in Different Body Fluids: Surface Antigen, Antibody, Nucleic Acid, and RNA Sequencing Detection Techniques. SSRN Electronic Journal, 0, , .	0.4	0
512	Potential of CRISPR/Cas9-Based Genome Editing in the Fields of Industrial Biotechnology: Strategies, Challenges, and Applications. , 2022, , 667-690.		5
513	Recent Advances in Plant Gene Silencing Methods. Methods in Molecular Biology, 2022, 2408, 1-22.	0.4	4
514	A Five-Fold Expansion of the Global RNA Virome Reveals Multiple New Clades of RNA Bacteriophages. SSRN Electronic Journal, 0, , .	0.4	4
515	Current Therapies in Hemophilia: From Plasma-Derived Factor Modalities to CRISPR/Cas Alternatives. Tohoku Journal of Experimental Medicine, 2022, 256, 197-207.	0.5	1
516	The Central Dogma revisited: Insights from protein synthesis, CRISPR, and beyond. Wiley Interdisciplinary Reviews RNA, 2022, 13, e1718.	3.2	10
517	Genomic Analysis of Molecular Bacterial Mechanisms of Resistance to Phage Infection. Frontiers in Microbiology, 2021, 12, 784949.	1.5	13
518	CRISPR-Cas9 Gene Therapy for Duchenne Muscular Dystrophy. Neurotherapeutics, 2022, 19, 931-941.	2.1	17
519	Powerful CRISPR-Based Biosensing Techniques and Their Integration With Microfluidic Platforms. Frontiers in Bioengineering and Biotechnology, 2022, 10, 851712.	2.0	9
521	CRISPR/Cas-based diagnostic platforms. Russian Journal of Infection and Immunity, 2022, 12, 9-20.	0.2	0
523	Viral Induction of Novel Somatic and Germline DNA Functions in Host Arthropods Opens a New Research Frontier in Biology. Frontiers in Molecular Biosciences, 2022, 9, 847670.	1.6	0
524	Creating memories: molecular mechanisms of CRISPR adaptation. Trends in Biochemical Sciences, 2022, 47, 464-476.	3.7	22
525	The era of Cas12 and Cas13 CRISPR-based disease diagnosis. Critical Reviews in Microbiology, 2022, 48, 714-729.	2.7	17
526	Draft Genome Sequence of Lactococcus lactis Subsp. cremoris WA2-67: A Promising Nisin-Producing Probiotic Strain Isolated from the Rearing Environment of a Spanish Rainbow Trout (Oncorhynchus) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 5		9
527	RetS Regulates Phage Infection in Pseudomonas aeruginosa via Modulating the GacS/GacA Two-Component System. Journal of Virology, 2022, 96, e0019722.	1.5	5

#	Article	IF	Citations
528	The Space-Exposed Kombucha Microbial Community Member Komagataeibacter oboediens Showed Only Minor Changes in Its Genome After Reactivation on Earth. Frontiers in Microbiology, 2022, 13, 782175.	1.5	5
529	Rethinking Protein Drug Design with Highly Accurate Structure Prediction of Anti-CRISPR Proteins. Pharmaceuticals, 2022, 15, 310.	1.7	14
530	AcrIF5 specifically targets DNA-bound CRISPR-Cas surveillance complex for inhibition. Nature Chemical Biology, 2022, 18, 670-677.	3.9	10
531	A Taxonomic and Phylogenetic Classification of Diverse Base Editors. CRISPR Journal, 2022, , .	1.4	1
532	CRISPRâ€“Cas9 gRNA efficiency prediction: an overview of predictive tools and the role of deep learning. Nucleic Acids Research, 2022, 50, 3616-3637.	6.5	69
537	Rapid cell-free characterization of multi-subunit CRISPR effectors and transposons. Molecular Cell, 2022, 82, 1210-1224.e6.	4.5	10
538	Editorial: The CRISPR/Cas System in Pathogen Resistance, Virulence, Diagnosis and Typing. Frontiers in Microbiology, 2022, 13, 832152.	1.5	0
541	Chimeric CRISPR-CasX enzymes and guide RNAs for improved genome editing activity. Molecular Cell, 2022, 82, 1199-1209.e6.	4.5	29
542	Reprogramming the endogenous type I CRISPRâ€Cas system for simultaneous gene regulation and editing in Haloarcula hispanica. , 2022, 1, 40-50.		7
544	New Insights for Biosensing: Lessons from Microbial Defense Systems. Chemical Reviews, 2022, 122, 8126-8180.	23.0	15
546	Targeted manipulation of m6A RNA modification through CRISPR-Cas-based strategies. Methods, 2022, 203, 56-61.	1.9	8
547	Recruitment of Mobile Genetic Elements for Diverse Cellular Functions in Prokaryotes. Frontiers in Molecular Biosciences, 2022, 9, 821197.	1.6	12
550	Precipitous Increase of Bacterial CRISPR-Cas Abundance at Around 45Â°C. Frontiers in Microbiology, 2022, 13, 773114.	1.5	2
551	Structure of the type V-C CRISPR-Cas effector enzyme. Molecular Cell, 2022, 82, 1865-1877.e4.	4.5	12
552	Persistence of plasmids targeted by CRISPR interference in bacterial populations. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2114905119.	3.3	2
553	Development and Application of CRISPR-Cas Based Tools. Frontiers in Cell and Developmental Biology, 2022, 10, 834646.	1.8	13
554	Distinct Subcellular Localization of a Type I CRISPR Complex and the Cas3 Nuclease in Bacteria. Journal of Bacteriology, 2022, 204, e0010522.	1.0	7
556	Controlling <scp>CRISPRâ€Cas9</scp> by guide <scp>RNA</scp> engineering. Wiley Interdisciplinary Reviews RNA, 2023, 14, e1731.	3.2	6

#	Article	IF	Citations
557	Therapeutic potentials of CRISPR-Cas genome editing technology in human viral infections. Biomedicine and Pharmacotherapy, 2022, 148, 112743.	2.5	27
558	CRISPR Cas system: A strategic approach in detection of nucleic acids. Microbiological Research, 2022, 259, 127000.	2.5	7
560	Advanced CRISPR-Cas Effector Enzyme-Based Diagnostics for Infectious Diseases, Including COVID-19. Life, 2021, 11, 1356.	1.1	9
561	Type I CRISPR-Cas provides robust immunity but incomplete attenuation of phage-induced cellular stress. Nucleic Acids Research, 2022, 50, 160-174.	6.5	12
562	Molecular Diagnostic Platforms for Specific Detection of Escherichia coli. , 0, , .		0
563	Mechanistic insights into the versatile class II CRISPR toolbox. Trends in Biochemical Sciences, 2022, 47, 433-450.	3.7	11
564	Genome Editing among Bioethics and Regulatory Practices. Biomolecules, 2022, 12, 13.	1.8	2
566	Engineered CRISPR-Cas systems for the detection and control of antibiotic-resistant infections. Journal of Nanobiotechnology, 2021, 19, 401.	4.2	37
567	CRISPR-Cas9-mediated Large Cluster Deletion and Multiplex Genome Editing in Paenibacillus polymyxa. ACS Synthetic Biology, 2022, 11, 77-84.	1.9	6
568	Gene editing and its applications in biomedicine. Science China Life Sciences, 2022, 65, 660-700.	2.3	20
569	CRISPRâ€Act3.0â€Based Highly Efficient Multiplexed Gene Activation in Plants. Current Protocols, 2022, 2, e365.	1.3	1
570	Molecular genetic characteristics of resistome and virulome of carbapenem-resistant Klebsiella pneumoniae clinical strains. Klinicheskeskaya Laboratornaya Diagnostika, 2022, 67, 186-192.	0.2	1
571	CRISPR Technology: Emerging Tools of Genome Editing and Protein Detection. , 0, , .		0
572	Computational normal mode analysis accurately replicates the activity and specificity profiles of CRISPR-Cas9 and high-fidelity variants. Computational and Structural Biotechnology Journal, 2022, 20, 2013-2019.	1.9	4
573	A unique mode of nucleic acid immunity performed by a multifunctional bacterial enzyme. Cell Host and Microbe, 2022, 30, 570-582.e7.	5.1	27
574	Insights into the inhibition of type I-F CRISPR-Cas system by a multifunctional anti-CRISPR protein AcrIF24. Nature Communications, 2022, 13, 1931.	5.8	16
575	Novel Plant Breeding Techniques Shake Hands with Cereals to Increase Production. Plants, 2022, 11, 1052.	1.6	14
576	Adaptation by Type III CRISPR-Cas Systems: Breakthrough Findings and Open Questions. Frontiers in Microbiology, 2022, 13, 876174.	1.5	4

#	Article	IF	Citations
583	Recent advancements in CRISPR/Cas technology for accelerated crop improvement. Planta, 2022, 255, 109.	1.6	9
584	Characterization of CRISPR-Cas systems in Bifidobacterium breve. Microbial Genomics, 2022, 8, .	1.0	1
586	CRISPR accelerates the cancer drug discovery. Biocell, 2022, .	0.4	0
587	Reconstitution and biochemical characterization of the RNA-guided helicase-nuclease protein Cas3 from type I-A CRISPRâ€“Cas system. Methods in Enzymology, 2022, , .	0.4	0
588	Nucleic Acid Sequence-Based Amplification (NASBA) Methods and CRISPR/Cas13 System to Detect Pig Viral Diseases. Springer Protocols, 2022, , 151-157.	0.1	1
589	PADLOC: a web server for the identification of antiviral defence systems in microbial genomes. Nucleic Acids Research, 2022, 50, W541-W550.	6.5	47
590	Health promoting functional genomic features of lactic acid bacteria. , 2022, , 221-244.		0
591	Engineered probiotics. Microbial Cell Factories, 2022, 21, 72.	1.9	24
592	Comprehensive Genomic Analysis of Marine Strain Streptomyces sp. 891, an Excellent Producer of Chrysomycin A with Therapeutic Potential. Marine Drugs, 2022, 20, 287.	2.2	5
593	CRISPR/Cas9 technology and its application in horticultural crops. Horticultural Plant Journal, 2022, 8, 395-407.	2.3	12
594	Comparative Genomics of Synechococcus elongatus Explains the Phenotypic Diversity of the Strains. MBio, 2022, 13, e0086222.	1.8	13
595	A widespread family of WYL-domain transcriptional regulators co-localizes with diverse phage defence systems and islands. Nucleic Acids Research, 2022, 50, 5191-5207.	6.5	19
596	Gene Therapy for Fibrodysplasia Ossificans Progressiva: Feasibility and Obstacles. Human Gene Therapy, 2022, 33, 782-788.	1.4	6
597	Recent advances in high-throughput metabolic engineering: Generation of oligonucleotide-mediated genetic libraries. Biotechnology Advances, 2022, 59, 107970.	6.0	3
598	Systematic and quantitative view of the antiviral arsenal of prokaryotes. Nature Communications, 2022, 13, 2561.	5.8	208
599	Structural biology of CRISPRâ€“Cas immunity and genome editing enzymes. Nature Reviews Microbiology, 2022, 20, 641-656.	13.6	78
600	Microbial chassis engineering drives heterologous production of complex secondary metabolites. Biotechnology Advances, 2022, 59, 107966.	6.0	30
602	Decrypting the mechanistic basis of CRISPR/Cas9 protein. Progress in Biophysics and Molecular Biology, 2022, 172, 60-76.	1.4	5

#	Article	IF	Citations
603	CRISPR/Cas9 is a powerful tool for precise genome editing of legume crops: a review. Molecular Biology Reports, 2022, 49, 5595-5609.	1.0	12
604	CrisprVi: a software for visualizing and analyzing CRISPR sequences of prokaryotes. BMC Bioinformatics, 2022, 23, .	1.2	1
606	Application of CRISPR/CasÎ¦2 System for Genome Editing in Plants. International Journal of Molecular Sciences, 2022, 23, 5755.	1.8	7
607	Discovering Biological Conflict Systems Through Genome Analysis: Evolutionary Principles and Biochemical Novelty. Annual Review of Biomedical Data Science, 2022, 5, 367-391.	2.8	15
608	The origin of unwanted editing byproducts in gene editing. Acta Biochimica Et Biophysica Sinica, 2022, 54, 767-781.	0.9	6
609	Engineered Cas12i2 is a versatile high-efficiency platform for therapeutic genome editing. Nature Communications, 2022, 13, .	5.8	18
610	Ultrasensitive fluorescent biosensor for detecting CaMV 35S promoter with proximity extension mediated multiple cascade strand displacement amplification and CRISPR/Cpf 1. Analytica Chimica Acta, 2022, 1215, 339973.	2.6	8
611	CRISPR/Cas-Mediated Genome Engineering for Abiotic Stress Resilience in Plants. , 2022, , 263-283.		3
612	Application of CRISPR-Cas-Based Genome Editing for Precision Breeding in Wheat. , 2022, , 539-556.		0
613	Type I-F CRISPR-PAIR platform for multi-mode regulation to boost extracellular electron transfer in Shewanella oneidensis. IScience, 2022, 25, 104491.	1.9	4
614	Next-Generation Diagnostic with CRISPR/Cas: Beyond Nucleic Acid Detection. International Journal of Molecular Sciences, 2022, 23, 6052.	1.8	15
615	Synergistic engineering of CRISPR-Cas nucleases enables robust mammalian genome editing. Innovation(China), 2022, 3, 100264.	5.2	7
618	Structural rearrangements allow nucleic acid discrimination by type I-D Cascade. Nature Communications, 2022, 13, .	5.8	17
619	Improving environmental stress resilience in crops by genome editing: insights from extremophile plants. Critical Reviews in Biotechnology, 2023, 43, 559-574.	5.1	8
620	CRISPR-Cas9: el debate bioÃ©tico mÃ¡s allÃ¡ de la lÃnea germinal. Persona Y BioÃ©tica, 2022, 25, 1-18.	0.2	0
621	Anti-CRISPR prediction using deep learning reveals an inhibitor of Cas13b nucleases. Molecular Cell, 2022, 82, 2714-2726.e4.	4.5	17
625	Structure and engineering of the type III-E CRISPR-Cas7-11 effector complex. Cell, 2022, 185, 2324-2337.e16.	13.5	51
626	A naturally DNase-free CRISPR-Cas12c enzyme silences gene expression. Molecular Cell, 2022, 82, 2148-2160.e4.	4.5	25

#	Article	IF	Citations
627	Genome Mining Approach Reveals the Occurrence and Diversity Pattern of Clustered Regularly Interspaced Short Palindromic Repeats/CRISPR-Associated Systems in Lactobacillus brevis Strains. Frontiers in Microbiology, 2022, 13, .	1.5	7
629	Opportunity and challenges for nanotechnology application for genome editing in plants. , 2022, 1, 100001.		15
630	A scaling law in CRISPR repertoire sizes arises from the avoidance of autoimmunity. Current Biology, 2022, , .	1.8	5
631	The plant rhizosheathâ€“root niche is an edaphic â€œmini-oasisâ€•in hyperarid deserts with enhanced microbial competition. ISME Communications, 2022, 2, .	1.7	18
632	Lack of Cas13a inhibition by anti-CRISPR proteins from Leptotrichia prophages. Molecular Cell, 2022, 82, 2161-2166.e3.	4.5	4
633	A Mutated Nme1Cas9 Is a Functional Alternative RNase to Both LwaCas13a and RfxCas13d in the Yeast S. cerevisiae. Frontiers in Bioengineering and Biotechnology, 2022, 10, .	2.0	4
634	Rapid RNA detection through intra-enzyme chain replacement-promoted Cas13a cascade cyclic reaction without amplification. Analytica Chimica Acta, 2022, 1217, 340009.	2.6	5
636	Tools for Efficient Genome Editing: ZFN, TALEN, and CRISPR. Methods in Molecular Biology, 2022, , 29-46.	0.4	16
637	CRISPRå•ç®¡ç‰æ¸©æ‰©å¢žæŠ€æœ¯é«˜çµæ•æ£€æµ‹æ¸…é…ä»¥æ£€æµ‹æ–°åž‹å† çŠ¶—…æ¯’(SARS-CoV-2) RNAä¿ä¾¿. Scientia Sini		
639	Reversible bacteriophage resistance by shedding the bacterial cell wall. Open Biology, 2022, 12, .	1.5	25
640	Structural and mechanistic insights into the inhibition of type I-F CRISPR-Cas system by anti-CRISPR protein AcrIF23. Journal of Biological Chemistry, 2022, , 102124.	1.6	8
643	CRISPR-Cas12a targeting of ssDNA plays no detectable role in immunity. Nucleic Acids Research, 2022, 50, 6414-6422.	6.5	13
644	A target expression threshold dictates invader defense and prevents autoimmunity by CRISPR-Cas13. Cell Host and Microbe, 2022, 30, 1151-1162.e6.	5.1	9
645	Genomic characterization of Streptococcus parasuis, a close relative of Streptococcus suis and also a potential opportunistic zoonotic pathogen. BMC Genomics, 2022, 23, .	1.2	6
646	CRISPR-Cas9-Based Technology and Its Relevance to Gene Editing in Parkinsonâ€™s Disease. Pharmaceutics, 2022, 14, 1252.	2.0	18
647	CRISPR-Based Approaches for Gene Regulation in Non-Model Bacteria. Frontiers in Genome Editing, 0, 4, .	2.7	13
648	Multi-color RNA imaging with CRISPR-Cas13b systems in living cells. , 2022, 1, 100044.		13
652	Growth rate determines prokaryote-provirus network modulated by temperature and host genetic traits. Microbiome, 2022, 10, .	4.9	0

#	Article	IF	Citations
653	Functional Allele Validation by Gene Editing to Leverage the Wealth of Genetic Resources for Crop Improvement. International Journal of Molecular Sciences, 2022, 23, 6565.	1.8	6
654	Horizontal Gene Transfer in Archaeaâ€"From Mechanisms to Genome Evolution. Annual Review of Microbiology, 2022, 76, 481-502.	2.9	15
655	CRISPR: A Promising Tool for Cancer Therapy. Current Molecular Medicine, 2022, 22, .	0.6	0
656	Structures of an active type III-A CRISPR effector complex. Structure, 2022, , .	1.6	4
657	Origin of the genome editing systems: application for crop improvement. , 2022, 77, 3353-3383.		1
658	Investigating the Genomic Background of CRISPR-Cas Genomes for CRISPR-Based Antimicrobials. Evolutionary Bioinformatics, 2022, 18, 117693432211038.	0.6	8
659	Type III-A CRISPR systems as a versatile gene knockdown technology. Rna, 2022, 28, 1074-1088.	1.6	7
660	Gene-Editing Technologies and Applications in Legumes: Progress, Evolution, and Future Prospects. Frontiers in Genetics, 0, 13, .	1.1	13
661	Characterization of a thermostable Cas13 enzyme for one-pot detection of SARS-CoV-2. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	33
662	Technical considerations towards commercialization of porcine respiratory and reproductive syndrome (PRRS) virus resistant pigs. CABI Agriculture and Bioscience, 2022, 3, .	1.1	3
663	Photoactivatable CRISPR/Cas12a Strategy for One-Pot DETECTR Molecular Diagnosis. Analytical Chemistry, 2022, 94, 9724-9731.	3.2	41
664	Recent Developments and Strategies for the Application of Agrobacterium-Mediated Transformation of Apple Malus Ã— domestica Borkh. Frontiers in Plant Science, 0, 13, .	1.7	7
665	Genomes of six viruses that infect Asgard archaea from deep-sea sediments. Nature Microbiology, 2022, 7, 953-961.	5.9	17
666	CRISPR-Cas9 Toolkit for Genome Editing in an Autotrophic CO ₂ -Fixing Methanogenic Archaeon. Microbiology Spectrum, 2022, 10, .	1.2	9
667	Diversity of novel archaeal viruses infecting methanogens discovered through coupling of stable isotope probing and metagenomics. Environmental Microbiology, 2022, 24, 4853-4868.	1.8	12
668	Allosteric control of type I-A CRISPR-Cas3 complexes and establishment as effective nucleic acid detection and human genome editing tools. Molecular Cell, 2022, 82, 2754-2768.e5.	4.5	23
669	Progress of delivery methods for CRISPR-Cas9. Expert Opinion on Drug Delivery, 2022, 19, 913-926.	2.4	14
670	RNA-targeting strategies as a platform for ocular gene therapy. Progress in Retinal and Eye Research, 2023, 92, 101110.	7.3	10

#	Article	IF	Citations
673	CRISPR-Cas12a nucleases function with structurally engineered crRNAs: SynThetic trAcrRNA. Scientific Reports, 2022, 12, .	1.6	5
674	Adaptation by Type V-A and V-B CRISPR-Cas Systems Demonstrates Conserved Protospacer Selection Mechanisms Between Diverse CRISPR-Cas Types. CRISPR Journal, 0, , .	1.4	1
675	Current landscape of geneâ€editing technology in biomedicine: Applications, advantages, challenges, and perspectives. MedComm, 2022, 3, .	3.1	2
676	Diagnostics of Infections Produced by the Plant Viruses TMV, TEV, and PVX with CRISPR-Cas12 and CRISPR-Cas13. ACS Synthetic Biology, 2022, 11, 2384-2393.	1.9	19
677	Genetic engineering of extremely acidophilic Acidithiobacillus species for biomining: Progress and perspectives. Journal of Hazardous Materials, 2022, 438, 129456.	6.5	17
678	CRISPR-Cas, Argonaute proteins and the emerging landscape of amplification-free diagnostics. Methods, 2022, 205, 1-10.	1.9	12
679	CRISPRâ€“Cas system and its use in the diagnosis of infectious diseases. Microbiological Research, 2022, 263, 127100.	2.5	3
680	A Novel Anti-Cancer Therapy: CRISPR/Cas9 Gene Editing. Frontiers in Pharmacology, 0, 13, .	1.6	10
681	Genomic and epigenetic landscapes drive CRISPR-based genome editing inBifidobacterium. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, .	3.3	20
682	The CRISPR-Cas system as a tool for diagnosing and treating infectious diseases. Molecular Biology Reports, 2022, 49, 11301-11311.	1.0	13
683	Delivering the Promise of Gene Therapy with Nanomedicines in Treating Central Nervous System Diseases. Advanced Science, 2022, 9, .	5.6	19
684	Advances in S gene targeted genome-editing and its applicability to disease resistance breeding in selected Solanaceae crop plants. Bioengineered, 2022, 13, 14646-14666.	1.4	4
685	Diagnostic accuracy of CRISPR technology for detecting SARS-CoV-2: a systematic review and meta-analysis. Expert Review of Molecular Diagnostics, 2022, 22, 655-663.	1.5	3
686	CRISPRâ€“Cas9 Based Bacteriophage Genome Editing. Microbiology Spectrum, 0, , .	1.2	7
687	Inactivation of Target RNA Cleavage of a III-B CRISPR-Cas System Induces Robust Autoimmunity in Saccharolobus islandicus. International Journal of Molecular Sciences, 2022, 23, 8515.	1.8	3
689	Nanocarriers: A novel strategy for the delivery of CRISPR/Cas systems. Frontiers in Chemistry, 0, 10, .	1.8	12
690	Structure and engineering of the minimal type VI CRISPR-Cas13bt3. Molecular Cell, 2022, 82, 3178-3192.e5.	4.5	12
691	The toxinâ€“antitoxin RNA guards of CRISPR-Cas evolved high specificity through repeat degeneration. Nucleic Acids Research, 2022, 50, 9442-9452.	6.5	7

#	Article	IF	Citations
692	Large scale screening of CRISPR guide RNAs using an optimized high throughput robotics system. Scientific Reports, 2022, 12, .	1.6	5
695	CRISPRCasStack: a stacking strategy-based ensemble learning framework for accurate identification of Cas proteins. Briefings in Bioinformatics, 2022, 23, .	3.2	3
696	The fluorescent aptasensor based on CRISPR-Cas12a combined with TdT for highly sensitive detection of cocaine. Analytical and Bioanalytical Chemistry, 2022, 414, 7291-7297.	1.9	5
697	Diversity and dynamics of the CRISPR-Cas systems associated with Bacteroides fragilis in human population. BMC Genomics, 2022, 23, .	1.2	0
699	Clustered regularly interspaced short palindromic repeats-Cas system: diversity and regulation in Enterobacteriaceae. Future Microbiology, 2022, 17, 1249-1267.	1.0	2
700	Craspase is a CRISPR RNA-guided, RNA-activated protease. Science, 2022, 377, 1278-1285.	6.0	41
701	CRISPR-Cas system: from diagnostic tool to potential antiviral treatment. Applied Microbiology and Biotechnology, 2022, 106, 5863-5877.	1.7	10
702	In silico analysis reveals the co-existence of CRISPR-Cas type I-F1 and type I-F2 systems and its association with restricted phage invasion in Acinetobacter baumannii. Frontiers in Microbiology, 0, 13, .	1.5	5
703	Programmable RNA targeting by bacterial Argonaute nucleases with unconventional guide binding and cleavage specificity. Nature Communications, 2022, 13, .	5.8	24
704	The application of CRISPR /Cas mediated gene editing in synthetic biology: Challenges and optimizations. Frontiers in Bioengineering and Biotechnology, 0, 10, .	2.0	1
705	Structure-based evolutionary relationship between IscB and Cas9. Cell Research, 0, , .	5.7	0
706	CRISPR/Cpf1-Mediated Multiplex and Large-Fragment Gene Editing in Staphylococcus aureus. ACS Synthetic Biology, 2022, 11, 3049-3057.	1.9	6
707	Microfluidics: the propellant of CRISPR-based nucleic acid detection. Trends in Biotechnology, 2023, 41, 557-574.	4.9	9
708	Rapid and Visual RPA-Cas12a Fluorescence Assay for Accurate Detection of Dermatophytes in Cats and Dogs. Biosensors, 2022, 12, 636.	2.3	3
709	Prokaryotic innate immunity through pattern recognition of conserved viral proteins. Science, 2022, 377, .	6.0	90
710	Unraveling the Genomic Potential of the Thermophilic Bacterium Anoxybacillus flavithermus from an Antarctic Geothermal Environment. Microorganisms, 2022, 10, 1673.	1.6	2
711	Recent Advances in CRISPR-Based Biosensors for Point-of-Care Pathogen Detection. CRISPR Journal, 2022, 5, 500-516.	1.4	14
712	CaSilico: A versatile CRISPR package for in silico CRISPR RNA designing for Cas12, Cas13, and Cas14. Frontiers in Bioengineering and Biotechnology, 0, 10, .	2.0	3

#	Article	IF	Citations
714	CRISPR/Cas12a Coupling with Magnetic Nanoparticles and Cascaded Strand Displacement Reaction for Ultrasensitive Fluorescence Determination of Exosomal miR-21. Molecules, 2022, 27, 5338.	1.7	9
715	The Prominent Characteristics of the Effective sgRNA for a Precise CRISPR Genome Editing. , 0, , .		3
716	Characterization of Marinilongibacter aquaticus gen. nov., sp. nov., a unique marine bacterium harboring four CRISPR-Cas systems in the phylum Bacteroidota. Journal of Microbiology, 2022, 60, 905-915.	1.3	4
719	Molecular basis of anti-CRISPR operon repression by Aca10. Nucleic Acids Research, 2022, 50, 8919-8928.	6.5	3
721	Harnessing nucleic acid technologies for human health on earth and in space. Life Sciences in Space Research, 2022, 35, 113-126.	1.2	2
722	CRISPRâ€“Cas9: A History of Its Discovery and Ethical Considerations of Its Use in Genome Editing. Biochemistry (Moscow), 2022, 87, 777-788.	0.7	27
724	Treatment strategies for HIV infection with emphasis on role of CRISPR/Cas9 gene: Success so far and road ahead. European Journal of Pharmacology, 2022, 931, 175173.	1.7	7
725	High-resolution crystal structure of the anti-CRISPR protein AcrIC5. Biochemical and Biophysical Research Communications, 2022, 625, 102-108.	1.0	3
726	CRISPR/Cas Systemsâ€Inspired Nano/Biosensors for Detecting Infectious Viruses and Pathogenic Bacteria. Small Methods, 2022, 6, .	4.6	24
727	Computation empowers CRISPR discovery and technology. Nature Computational Science, 2022, 2, 533-535.	3.8	1
730	Current trends in COVID-19 diagnosis and its new variants in physiological fluids: Surface antigens, antibodies, nucleic acids, and RNA sequencing. TrAC - Trends in Analytical Chemistry, 2022, 157, 116750.	5.8	16
731	Capturing nucleic acid variants with precision using CRISPR diagnostics. Biosensors and Bioelectronics, 2022, 217, 114712.	5.3	4
732	The double life of CRISPRâ€“Cas13. Current Opinion in Biotechnology, 2022, 78, 102789.	3.3	16
733	Miniature CRISPR-Cas12 endonucleases â€“ Programmed DNA targeting in a smaller package. Current Opinion in Structural Biology, 2022, 77, 102466.	2.6	6
734	CRISPR Genome Editing Brings Global Food Security into the First Lane: Enhancing Nutrition and Stress Resilience in Crops. , 2022, , 285-344.		2
735	CRISPR/Cas for Improved Stress Tolerance in Rice. , 2022, , 397-431.		0
736	Reprogramming CRISPR-Mediated RNA Interference for Silencing of Essential Genes in Sulfolobales. Methods in Molecular Biology, 2022, , 177-201.	0.4	0
737	Adaptive immunity systems of bacteria: connection with self-synthesizing transposons, polyfunctionality. Molekuliarnaia Genetika, Mikrobiologiia I Virusologiia, 2022, 40, 13.	0.1	0

#	Article	IF	Citations
738	The Use of CRISPR Technologies for Crop Improvement in Maize. , 2022, , 271-294.		2
739	Molecular Details of DNA Integration by CRISPR-Associated Proteins During Adaptation in Bacteria and Archaea. Advances in Experimental Medicine and Biology, 2022, , 27-43.	0.8	2
740	Editing Plant Genome with CRISPR/Cas: A Sustainable Strategy for Disease Management. , 2022, , 369-396.		1
741	RNA gene editing in the eye and beyond: The neglected tool of the gene editing armatorium?. International Review of Cell and Molecular Biology, 2022, , 175-205.	1.6	2
742	Dynamic mechanisms of CRISPR interference by Escherichia coli CRISPR-Cas3. Nature Communications, 2022, 13, .	5.8	9
744	How to Completely Squeeze a Fungusâ€"Advanced Genome Mining Tools for Novel Bioactive Substances. Pharmaceutics, 2022, 14, 1837.	2.0	9
745	Bacterial genome reductions: Tools, applications, and challenges. Frontiers in Genome Editing, 0, 4, .	2.7	12
747	Clustered Regularly Interspaced Short Palindromic Repeats in Xanthomonas citriâ€"Witnesses to a Global Expansion of a Bacterial Pathogen over Time. Microorganisms, 2022, 10, 1715.	1.6	6
753	Highly Efficient Genome Editing Using Geminivirus-Based CRISPR/Cas9 System in Cotton Plant. Cells, 2022, 11, 2902.	1.8	8
754	Disarming of type I-F CRISPR-Cas surveillance complex by anti-CRISPR proteins AcrIF6 and AcrIF9. Scientific Reports, 2022, 12, .	1.6	1
755	Expansion of the global RNA virome reveals diverse clades of bacteriophages. Cell, 2022, 185, 4023-4037.e18.	13.5	96
756	Approaches for bacteriophage genome engineering. Trends in Biotechnology, 2023, 41, 669-685.	4.9	27
757	Quantification of Genome Editing and Transcriptional Control Capabilities Reveals Hierarchies among Diverse CRISPR/Cas Systems in Human Cells. ACS Synthetic Biology, 2022, 11, 3239-3250.	1.9	9
758	Virus-Induced Gene Editing and Its Applications in Plants. International Journal of Molecular Sciences, 2022, 23, 10202.	1.8	22
759	CRISPR/Cas systems accelerating the development of aptasensors. TrAC - Trends in Analytical Chemistry, 2023, 158, 116775.	5.8	7
760	A comprehensive overview of CRISPR/Cas 9 technology and application thereof in drug discovery. Journal of Cellular Biochemistry, 2022, 123, 1674-1698.	1.2	7
761	Genome Editing Approaches with CRISPR/Cas9 for Cancer Treatment: Critical Appraisal of Preclinical and Clinical Utility, Challenges, and Future Research. Cells, 2022, 11, 2781.	1.8	4
762	Transposons and CRISPR: Rewiring Gene Editing. Biochemistry, 2023, 62, 3521-3532.	1.2	3

#	Article	IF	Citations
764	Nonviral Delivery of CRISPR/Cas Systems in mRNA Format. Advanced NanoBiomed Research, 2022, 2, .	1.7	8
765	A Review on the Mechanism and Applications of CRISPR/Cas9/Cas12/Cas13/Cas14 Proteins Utilized for Genome Engineering. Molecular Biotechnology, 2023, 65, 311-325.	1.3	42
766	Novel PCR detection of CRISPR/Cas systems in Pseudomonas aeruginosa and its correlation with antibiotic resistance. Applied Microbiology and Biotechnology, 2022, 106, 7223-7234.	1.7	1
767	Guide RNA engineering enables efficient CRISPR editing with a miniature Syntrophomonas palmitatica Cas12f1 nuclease. Cell Reports, 2022, 40, 111418.	2.9	22
768	Applications of CRISPR/Cas technology against drug-resistant lung cancers: an update. Molecular Biology Reports, 0, , .	1.0	1
770	DNA Motifs and an Accessory CRISPR Factor Determine Cas1 Binding and Integration Activity in Sulfolobus islandicus. International Journal of Molecular Sciences, 2022, 23, 10178.	1.8	1
773	CRISPR-Based Therapeutic Gene Editing for Duchenne Muscular Dystrophy: Advances, Challenges and Perspectives. Cells, 2022, 11, 2964.	1.8	8
774	Characterization of the self-targeting Type IV CRISPR interference system in Pseudomonas oleovorans. Nature Microbiology, 2022, 7, 1870-1878.	5.9	13
775	Recent Advances in CRISPR/Cas-Based Biosensors for Protein Detection. Bioengineering, 2022, 9, 512.	1.6	10
776	CRISPRtracrRNA: robust approach for CRISPR tracrRNA detection. Bioinformatics, 2022, 38, ii42-ii48.	1.8	6
777	Allosteric activation of CRISPR-Cas12a requires the concerted movement of the bridge helix and helix 1 of the RuvC II domain. Nucleic Acids Research, 2022, 50, 10153-10168.	6.5	7
778	Whole-Genome Analysis of Acinetobacter baumannii Strain AB43 Containing a Type I-Fb CRISPR-Cas System: Insights into the Relationship with Drug Resistance. Molecules, 2022, 27, 5665.	1.7	1
779	Deciphering microbial gene function using natural language processing. Nature Communications, 2022, 13, .	5.8	13
781	Structural and functional characterization of Cas2 of CRISPR-Cas subtype I-C lacking the CRISPR component. Frontiers in Molecular Biosciences, 0, 9, .	1.6	4
782	Research progress of CRISPR-based biosensors and bioassays for molecular diagnosis. Frontiers in Bioengineering and Biotechnology, 0, 10, .	2.0	8
783	Recent advances in the use of CRISPR/Cas for understanding the early development of molecular gaps in glial cells. Frontiers in Cell and Developmental Biology, 0, 10, .	1.8	0
784	RNA-targeting CRISPRâ€“Cas systems. Nature Reviews Microbiology, 2023, 21, 21-34.	13.6	28
786	General guidelines for CRISPR/Cas-based genome editing in plants. Molecular Biology Reports, 2022, 49, 12151-12164.	1.0	9

#	Article	IF	Citations
787	Fluorescence Signal-Readout of CRISPR/Cas Biosensors for Nucleic Acid Detection. Biosensors, 2022, 12, 779.	2.3	9
789	Molecular mechanism of active Cas7-11 in processing CRISPR RNA and interfering target RNA. ELife, 0, 11, .	2.8	8
790	A Protein-Cutting CRISPR Complex Caught in Action. CRISPR Journal, 0, , .	1.4	0
791	Construction of TSC2 knockout cell line using CRISPR/Cas9 system and demonstration of its effects on NIH-3T3 cells. Cell Biochemistry and Biophysics, 0, , .	0.9	0
792	<scp>CRISPRâ€Cas</scp> system manipulating nanoparticles signal transduction for cancer diagnosis. Wiley Interdisciplinary Reviews: Nanomedicine and Nanobiotechnology, 2023, 15, .	3.3	2
793	CRISPR-Cas13 technology portfolio and alliance with other genetic tools. Biotechnology Advances, 2022, , 108047.	6.0	6
794	CRISPR-Based Diagnostics and Microfluidics for COVID-19 Point-of-Care Testing: A Review of Main Applications. Molecular Biotechnology, 0, , .	1.3	4
795	Microfluidic Enrichment and Computational Analysis of Rare Sequences from Mixed Genomic Samples for Metagenomic Mining. CRISPR Journal, 0, , .	1.4	0
796	Structure of the TnsB transposase-DNA complex of type V-K CRISPR-associated transposon. Nature Communications, 2022, 13, .	5.8	15
797	CRISPR for accelerating genetic gains in under-utilized crops of the drylands: Progress and prospects. Frontiers in Genetics, 0, 13, .	1.1	3
798	In silico optimization of RNAâ€“protein interactions for CRISPR-Cas13-based antimicrobials. Biology Direct, 2022, 17, .	1.9	8
799	CRISPR/CAS9: A promising approach for the research and treatment of cardiovascular diseases. Pharmacological Research, 2022, 185, 106480.	3.1	3
800	CRISPR-Cas: Aktuelle og mulige anvendelser iÂodontologi. , 2021, 132, .		0
801	The expanding CRISPR toolbox for natural product discovery and engineering in filamentous fungi. Natural Product Reports, 2023, 40, 158-173.	5.2	6
802	Molecular basis of cyclic tetra-oligoadenylate processing by small standalone CRISPR-Cas ring nucleases. Nucleic Acids Research, 2022, 50, 11199-11213.	6.5	5
803	CRISPR-Cas13: A new technology for the rapid detection of pathogenic microorganisms. Frontiers in Microbiology, 0, 13, .	1.5	7
804	Molecular basis of dual anti-CRISPR and auto-regulatory functions of AcrIF24. Nucleic Acids Research, 2022, 50, 11344-11358.	6.5	6
806	Borgs are giant genetic elements with potential to expand metabolic capacity. Nature, 2022, 610, 731-736.	13.7	29

#	Article	IF	Citations
807	Cryo-EM structure of the type III-E CRISPR-Cas effector gRAMP in complex with TPR-CHAT. Cell Research, 2022, 32, 1128-1131.	5.7	10
808	Current advances of CRISPR-Cas technology in cell therapy. , 2022, 1, 100067.		10
809	Structure and function of a bacterial type III-E CRISPRâ€“Cas7-11 complex. Nature Microbiology, 2022, 7, 2078-2088.	5.9	14
810	Automated identification of sequence-tailored Cas9 proteins using massive metagenomic data. Nature Communications, 2022, 13, .	5.8	6
811	Application of the CRISPR/Cas System in Pathogen Detection: A Review. Molecules, 2022, 27, 6999.	1.7	7
812	Responsive MXene nanovehicles deliver CRISPR/Cas12a for boolean logic-controlled gene editing. Science China Chemistry, 2022, 65, 2318-2326.	4.2	2
813	The diverse arsenal of type III CRISPRâ€“Cas-associated CARF and SAVED effectors. Biochemical Society Transactions, 2022, 50, 1353-1364.	1.6	14
814	CRISPR/Cas-Based Biosensor As a New Age Detection Method for Pathogenic Bacteria. ACS Omega, 2022, 7, 39562-39573.	1.6	12
815	Target RNA activates the protease activity of Craspase to confer antiviral defense. Molecular Cell, 2022, 82, 4503-4518.e8.	4.5	12
816	Metagenomic discovery of novel CRISPR-Cas13 systems. Cell Discovery, 2022, 8, .	3.1	8
817	Anti-CRISPR proteins function through thermodynamic tuning and allosteric regulation of CRISPR RNA-guided surveillance complex. Nucleic Acids Research, 2022, 50, 11243-11254.	6.5	2
818	Development and Applications of CRISPR/Cas9-Based Genome Editing in Lactobacillus. International Journal of Molecular Sciences, 2022, 23, 12852.	1.8	6
819	Environment-Related Genes Analysis of Limosilactobacillus fermentum Isolated from Food and Human Gut: Genetic Diversity and Adaption Evolution. Foods, 2022, 11, 3135.	1.9	4
820	Contribution of CRISPRable DNA to human complex traits. Communications Biology, 2022, 5, .	2.0	2
821	A new family of<scp>CRISPR</scp>â€type V nucleases with Câ€rich<scp>PAM</scp>recognition. EMBO Reports, 2022, 23, .	2.0	10
822	A type III-E CRISPR Craspase exhibiting RNase and protease activities. Cell Research, 2022, 32, 1044-1046.	5.7	1
823	Structure and mechanism of the type I-G CRISPR effector. Nucleic Acids Research, 2022, 50, 11214-11228.	6.5	11
824	Genome Editing for Sustainable Crop Improvement and Mitigation of Biotic and Abiotic Stresses. Plants, 2022, 11, 2625.	1.6	20

#	Article	IF	Citations
825	Bacteriophage genome engineering with CRISPRâ€“Cas13a. Nature Microbiology, 2022, 7, 1956-1966.	5.9	29
826	Advances in CRISPR therapeutics. Nature Reviews Nephrology, 2023, 19, 9-22.	4.1	41
827	Correlation between CRISPR Loci Diversity in Three Enterobacterial Taxa. International Journal of Molecular Sciences, 2022, 23, 12766.	1.8	0
828	Structural basis for Cas9 off-target activity. Cell, 2022, 185, 4067-4081.e21.	13.5	54
829	An expanded arsenal of immune systems that protect bacteria from phages. Cell Host and Microbe, 2022, 30, 1556-1569.e5.	5.1	137
830	Broad-spectrum CRISPR-Cas13a enables efficient phage genome editing. Nature Microbiology, 2022, 7, 1967-1979.	5.9	41
831	PAM binding ensures orientational integration during Cas4-Cas1-Cas2-mediated CRISPR adaptation. Molecular Cell, 2022, 82, 4353-4367.e6.	4.5	10
832	Global profiling of the RNA and protein complexes ofEscherichia coliby size exclusion chromatography followed by RNA sequencing and mass spectrometry (SEC-seq). Rna, 2023, 29, 123-139.	1.6	8
835	Structural insights into target DNA recognition and cleavage by the CRISPR-Cas12c1 system. Nucleic Acids Research, 2022, 50, 11820-11833.	6.5	9
836	Genomic insights into phage-host interaction in the deep-sea chemolithoautotrophic Campylobacterota, Nitratiruptor. ISME Communications, 2022, 2, .	1.7	1
837	Application of CRISPR/Cas system in cereal improvement for biotic and abiotic stress tolerance. Planta, 2022, 256, .	1.6	11
838	CRISPR-assisted transposition: TnsC finds (and threads) the needle in the haystack. Molecular Cell, 2022, 82, 3968-3969.	4.5	2
839	RNA-triggered protein cleavage and cell growth arrest by the type III-E CRISPR nuclease-protease. Science, 2022, 378, 882-889.	6.0	26
840	RNA-activated protein cleavage with a CRISPR-associated endopeptidase. Science, 2022, 378, 874-881.	6.0	32
841	Genome editing technology and applications with the type I CRISPR system. Gene and Genome Editing, 2022, 3-4, 100013.	1.3	2
842	Transgene-Free Genome Editing in Plants. , 2022, , 171-186.		0
843	Recent Advances and Application of CRISPR Base Editors for Improvement of Various Traits in Crops. , 2022, , 105-131.		0
845	Enzymatic properties of CARF-domain proteins in Synechocystis sp. PCC 6803. Frontiers in Microbiology, 0, 13, .	1.5	1

#	Article	IF	Citations
846	Type III CRISPR-Cas provides resistance against nucleus-forming jumbo phages via abortive infection. Molecular Cell, 2022, 82, 4471-4486.e9.	4.5	23
847	Hyper-stimulation of Pyrococcus furiosus CRISPR DNA uptake by a self-transmissible plasmid. Extremophiles, 2022, 26, .	0.9	1
849	Functional characterization of diverse type I-F CRISPR-associated transposons. Nucleic Acids Research, 2022, 50, 11670-11681.	6.5	7
850	Site-specific genome editing in treatment of inherited diseases: possibility, progress, and perspectives. Medical Review, 2022, 2, 471-500.	0.3	6
851	Multiplexed biosensor for point-of-care COVID-19 monitoring: CRISPR-powered unamplified RNA diagnostics and protein-based therapeutic drug management. Materials Today, 2022, 61, 129-138.	8.3	14
853	Distribution of CRISPR-Cas systems in the Burkholderiaceae family and its biological implications. Archives of Microbiology, 2022, 204, .	1.0	0
854	Constructing next-generation CRISPRâ€“Cas tools from structural blueprints. Current Opinion in Biotechnology, 2022, 78, 102839.	3.3	5
855	Advances in the antimicrobial treatment of osteomyelitis. Composites Part B: Engineering, 2023, 249, 110428.	5.9	13
856	Determination of Acr-mediated immunosuppression in Pseudomonas aeruginosa. MethodsX, 2023, 10, 101941.	0.7	2
857	Improvements in the genetic editing technologies: CRISPR-Cas and beyond. Gene, 2023, 852, 147064.	1.0	1
858	Functional ecology of bacteriophages in the environment. Current Opinion in Microbiology, 2023, 71, 102245.	2.3	8
859	Multiplexing with CRISPR-Cas Arrays. , 2022, , .		0
860	Adaptive Immunity Systems of Bacteria: Association with Self-Synthesizing Transposons, Polyfunctionality. Molecular Genetics, Microbiology and Virology, 2022, 37, 117-126.	0.0	0
862	A long look at short prokaryotic Argonautes. Trends in Cell Biology, 2023, 33, 605-618.	3.6	28
863	The effect of crRNAâ€“target mismatches on cOA-mediated interference by a type III-A CRISPR-Cas system. RNA Biology, 2022, 19, 1293-1304.	1.5	2
864	Developing New Tools to Fight Human Pathogens: A Journey through the Advances in RNA Technologies. Microorganisms, 2022, 10, 2303.	1.6	1
865	The abortive infection functions of CRISPR-Cas and Argonaute. Trends in Microbiology, 2023, 31, 405-418.	3.5	7
866	Diverse virus-encoded CRISPR-Cas systems include streamlined genome editors. Cell, 2022, 185, 4574-4586.e16.	13.5	47

#	Article	IF	Citations
867	Repurposing the Endogenous CRISPR-Cas9 System for High-Efficiency Genome Editing in Lacticaseibacillus paracasei. ACS Synthetic Biology, 2022, 11, 4031-4042.	1.9	2
869	CRISPR-Based Diagnostics: Challenges and Potential Solutions toward Point-of-Care Applications. ACS Synthetic Biology, 2023, 12, 1-16.	1.9	13
870	Novel configurations of type I-E CRISPR-Cas system in Corynebacterium striatum clinical isolates. Brazilian Journal of Microbiology, 2023, 54, 69-80.	0.8	1
871	Optimization of <scp>CRISPRâ€“Cas</scp> system for clinical cancer therapy. Bioengineering and Translational Medicine, 2023, 8, .	3.9	3
873	Target RNA-guided protease activity in type III-E CRISPRâ€“Cas system. Nucleic Acids Research, 2022, 50, 12913-12923.	6.5	9
874	Structural basis for the non-self RNA-activated protease activity of the type III-E CRISPR nuclease-protease Craspase. Nature Communications, 2022, 13, .	5.8	7
875	Time-resolved microfluidics unravels individual cellular fates during double-strand break repair. BMC Biology, 2022, 20, .	1.7	1
876	Breeding and adoption of biofortified crops and their nutritional impact on human health. Annals of the New York Academy of Sciences, 2023, 1520, 5-19.	1.8	7
877	Streptomyces Spinosirectus sp. nov., Isolated From the Medicinal Plant Xanthium Sibiricum. Current Microbiology, 2023, 80, .	1.0	3
878	Induced Pluripotent Stem Cells and Genome-Editing Tools in Determining Gene Function and Therapy for Inherited Retinal Disorders. International Journal of Molecular Sciences, 2022, 23, 15276.	1.8	1
879	Prime editing: A potential treatment option for Î²â€thalassemia. Cell Biology International, 2023, 47, 699-713.	1.4	3
881	Biochemical characterization of the two novel mgCas12a proteins from the human gut metagenome. Scientific Reports, 2022, 12, .	1.6	0
882	Engineering antiviral immune-like systems for autonomous virus detection and inhibition in mice. Nature Communications, 2022, 13, .	5.8	1
883	Critical roles for â€˜housekeepingâ€™ nucleases in type III CRISPR-Cas immunity. ELife, 0, 11, .	2.8	4
884	CRISPR-Cas Controls Cryptic Prophages. International Journal of Molecular Sciences, 2022, 23, 16195.	1.8	2
885	Discovery and characterization of novel type I-D CRISPR-guided transposons identified among diverse Tn7-like elements in cyanobacteria. Nucleic Acids Research, 2023, 51, 765-782.	6.5	16
886	CRISPR-Cas13a system: A novel tool for molecular diagnostics. Frontiers in Microbiology, 0, 13, .	1.5	16
887	The miniature CRISPR-Cas12m effector binds DNA to block transcription. Molecular Cell, 2022, 82, 4487-4502.e7.	4.5	26

#	Article	IF	Citations
888	New Therapeutics for Extracellular Vesicles: Delivering CRISPR for Cancer Treatment. International Journal of Molecular Sciences, 2022, 23, 15758.	1.8	7
890	From DNA-protein interactions to the genetic circuit design using CRISPR-dCas systems. Frontiers in Molecular Biosciences, 0, 9, .	1.6	1
891	Global phylogenomic novelty of the Cas1 gene from hot spring microbial communities. Frontiers in Microbiology, 0, 13, .	1.5	0
892	Analysis and Biomedical Applications of Functional Cargo in Extracellular Vesicles. ACS Nano, 2022, 16, 19980-20001.	7.3	20
893	A quantitative model for the dynamics of target recognition and off-target rejection by the CRISPR-Cas Cascade complex. Nature Communications, 2022, 13, .	5.8	6
894	Bacterial survivors: evaluating the mechanisms of antibiotic persistence. Microbiology (United) Tj ETQq1 1 0.784314 rgBT /Overlock 10	0.7	5
895	Highâ€efficiency genome editing of an extreme thermophile Thermus thermophilus using endogenous type I and type III CRISPRâ€Cas systems. , 2022, 1, 412-427.		4
896	Compact Cas9d and HEARO enzymes for genome editing discovered from uncultivated microbes. Nature Communications, 2022, 13, .	5.8	10
897	The coordination of anti-phage immunity mechanisms in bacterial cells. Nature Communications, 2022, 13, .	5.8	4
898	Nucleic acid-assisted CRISPR-Cas systems for advanced biosensing and bioimaging. TrAC - Trends in Analytical Chemistry, 2023, 159, 116931.	5.8	14
899	CRISPR medicine for blood disorders: Progress and challenges in delivery. Frontiers in Genome Editing, 0, 4, .	2.7	1
901	Application Of Genome Editing In Entomology. Indian Journal of Entomology, 0, , 96-103.	0.1	0
903	Research progress on nucleic acid detection and genome editing of CRISPR/Cas12 system. Molecular Biology Reports, 2023, 50, 3723-3738.	1.0	6
904	An update on CRISPR-Cas12 as a versatile tool in genome editing. Molecular Biology Reports, 2023, 50, 2865-2881.	1.0	3
905	Engineering CRISPR/Cas-based nanosystems for therapeutics, diagnosis and bioimaging. Chinese Chemical Letters, 2023, 34, 108134.	4.8	2
906	Paracoccus marinaquae sp. nov., isolated from coastal water of the Yellow Sea. Archives of Microbiology, 2023, 205, .	1.0	2
907	Evolution of CRISPR-associated endonucleases as inferred from resurrected proteins. Nature Microbiology, 2023, 8, 77-90.	5.9	10
909	Recent Advances in Genome-Engineering Strategies. Genes, 2023, 14, 129.	1.0	8

#	Article	IF	Citations
910	The ESKAPE mobilome contributes to the spread of antimicrobial resistance and CRISPR-mediated conflict between mobile genetic elements. Nucleic Acids Research, 2023, 51, 236-252.	6.5	10
911	Dynamics of immune memory and learning in bacterial communities. ELife, 0, 12, .	2.8	0
913	CRISPR-associated type V proteins as a tool for controlling mRNA stability inS. cerevisiaesynthetic gene circuits. Nucleic Acids Research, 2023, 51, 1473-1487.	6.5	4
914	CRISPR-Cas provides limited phage immunity to a prevalent gut bacterium in gnotobiotic mice. ISME Journal, 2023, 17, 432-442.	4.4	0
915	Nucleic acid drug vectors for diagnosis and treatment of brain diseases. Signal Transduction and Targeted Therapy, 2023, 8, .	7.1	19
916	The compact CasÏ€ (Cas12l) â€˜braceletâ€™ provides a unique structural platform for DNA manipulation. Cell Research, 2023, 33, 229-244.	5.7	15
917	Anti-CRISPR Discovery: Using Magnets to Find Needles in Haystacks. Journal of Molecular Biology, 2023, 435, 167952.	2.0	4
918	Advances of CRISPR-Cas13 system in COVID-19 diagnosis and treatment. Genes and Diseases, 2023, 10, 2414-2424.	1.5	3
919	A Landscape of CRISPR/Cas Technique for Emerging Viral Disease Diagnostics and Therapeutics: Progress and Prospects. Pathogens, 2023, 12, 56.	1.2	6
920	Miniature CRISPR-Cas12f1-Mediated Single-Nucleotide Microbial Genome Editing Using 3â€²-Truncated sgRNA. CRISPR Journal, 2023, 6, 52-61.	1.4	4
921	Advances in CRISPR-Cas9 for the Baculovirus Vector System: A Systematic Review. Viruses, 2023, 15, 54.	1.5	1
922	RNA targeting unleashes indiscriminate nuclease activity of CRISPRâ€“Cas12a2. Nature, 2023, 613, 582-587.	13.7	17
924	Biosensors for nucleic acid detection. , 2023, , 173-233.		0
925	Enzyme-Assisted Nucleic Acid Amplification in Molecular Diagnosis: A Review. Biosensors, 2023, 13, 160.	2.3	4
926	Genome editing in plants using the compact editor CasÎ¦. Proceedings of the National Academy of Sciences of the United States of America, 2023, 120, .	3.3	11
927	Gene Therapy Medicinal Products: Non-clinical Safety Studies. Safety and Risk of Pharmacotherapy, 0, , .	0.1	0
928	Inducible CRISPRi-Based Operon Silencing and Selective in Trans Gene Complementation in Borrelia burgdorferi. Journal of Bacteriology, 2023, 205, .	1.0	3
929	CRISPRâ€“Cas has a new juggling act: interplay between nuclease and protease. Nature Structural and Molecular Biology, 0, , .	3.6	0

#	Article	IF	Citations
930	The genome editing revolution. Trends in Biotechnology, 2023, 41, 396-409.	4.9	22
931	Three Innovations of Next-Generation Antibiotics: Evolvability, Specificity, and Non-Immunogenicity. Antibiotics, 2023, 12, 204.	1.5	10
933	Involvement of CRISPR-Cas Systems in Salmonella Immune Response, Genome Editing, and Pathogen Typing in Diagnosis and Surveillance. , 0, , .		0
934	Recent progress in nucleic acid detection with CRISPR. Lab on A Chip, 2023, 23, 1467-1492.	3.1	7
936	Applications of CRISPR/Cas genome editing in economically important fruit crops: recent advances and future directions. Molecular Horticulture, 2023, 3, .	2.3	5
937	CRISPR-Cas system as a promising player against bacterial infection and antibiotic resistance. Drug Resistance Updates, 2023, 68, 100948.	6.5	7
938	Evolution of genome fragility enables microbial division of labor. Molecular Systems Biology, 2023, 19, .	3.2	4
939	Roles of innovative genome editing technologies in stem cell engineering, rheumatic diseases and other joint/bone diseases. , 2023, , 53-77.		0
940	Type I-D CRISPR System-Mediated Genome Editing in Plants. Methods in Molecular Biology, 2023, , 21-38.	0.4	0
941	é'^å¯¹Ilåž‹CRISPR-Casç³»ç»Ÿçš„Acrå¯ºå›çš„å‘çŽ°åŠAcrè›‹ç™½½åšæ·åŒ–çš„æŠ'å^¶æœºå^¶. Scientia Sinica Vitae, 2023, 1 .		0
942	Visualizing the Nucleome Using the CRISPRâ€“Cas9 System: From in vitro to in vivo. Biochemistry (Moscow), 2023, 88, S123-S149.	0.7	1
943	Reversing the Central Dogma: RNA-guided control of DNA in epigenetics and genome editing. Molecular Cell, 2023, 83, 442-451.	4.5	5
945	Clinical applications of the CRISPR/Cas9 genome-editing system: Delivery options and challenges in precision medicine. Genes and Diseases, 2024, 11, 268-282.	1.5	5
946	CRISPR-Cas effector specificity and cleavage site determine phage escape outcomes. PLoS Biology, 2023, 21, e3002065.	2.6	2
947	Cryo-EM structure of the transposon-associated TnpB enzyme. Nature, 2023, 616, 390-397.	13.7	26
948	CRISPR-Cas assisted diagnostics: A broad application biosensing approach. TrAC - Trends in Analytical Chemistry, 2023, 162, 117028.	5.8	8
949	Functional PAM sequence for DNA interference by CRISPR-Cas I-B system of Leptospira interrogans and the role of LinCas11b encoded within lincas8b. International Journal of Biological Macromolecules, 2023, 237, 124086.	3.6	3
950	CRISPR-Cas for genome editing: Classification, mechanism, designing and applications. International Journal of Biological Macromolecules, 2023, 238, 124054.	3.6	17

#	Article	IF	Citations
951	State of the art in CRISPR/Cas system-based signal conversion and amplification applied in the field of food analysis. Trends in Food Science and Technology, 2023, 135, 174-189.	7.8	22
952	The use of CRISPR-Cas-based systems in bacterial cell factories. Biochemical Engineering Journal, 2023, 194, 108880.	1.8	3
953	CRISPR-Cas phage defense systems and prophages in Candidatus Accumulibacter. Water Research, 2023, 235, 119906.	5.3	6
954	An ultra-sensitive one-pot RNA-templated DNA ligation rolling circle amplification-assisted CRISPR/Cas12a detector assay for rapid detection of SARS-CoV-2. Biosensors and Bioelectronics, 2023, 228, 115179.	5.3	11
955	Antibiotics that affect translation can antagonize phage infectivity by interfering with the deployment of counter-defenses. Proceedings of the National Academy of Sciences of the United States of America, 2023, 120, .	3.3	12
956	Ecology and evolution of phages encoding anti-CRISPR proteins. Journal of Molecular Biology, 2023, 435, 167974.	2.0	5
957	Programmable regulation of translation by harnessing the CRISPR-Cas13 system. Chemical Communications, 2023, 59, 2616-2619.	2.2	6
958	The collateral activity of RfxCas13d can induce lethality in a RfxCas13d knock-in mouse model. Genome Biology, 2023, 24, .	3.8	21
959	Anti-CRISPR Protein AcrIIC5 Inhibits CRISPR-Cas9 by Occupying the Target DNA Binding Pocket. Journal of Molecular Biology, 2023, 435, 167991.	2.0	3
962	Non-canonical inhibition strategies and structural basis of anti-CRISPR proteins targeting type I CRISPR-Cas systems. Journal of Molecular Biology, 2023, 435, 167996.	2.0	9
963	Anti-CRISPR AcrIIC5 is a dsDNA mimic that inhibits type II-C Cas9 effectors by blocking PAM recognition. Nucleic Acids Research, 2023, 51, 1984-1995.	6.5	6
965	Systematically attenuating DNA targeting enables CRISPR-driven editing in bacteria. Nature Communications, 2023, 14, .	5.8	7
966	Structure of the Saccharolobus solfataricus type III-D CRISPR effector. Current Research in Structural Biology, 2023, 5, 100098.	1.1	0
967	CRISPR-based nucleic acid diagnostics for pathogens. TrAC - Trends in Analytical Chemistry, 2023, 160, 116980.	5.8	7
968	Recent advances and applications of CRISPR-Cas9 in cancer immunotherapy. Molecular Cancer, 2023, 22, .	7.9	14
969	Mis-annotation of TnpB: case of TaRGET-ABE. Nature Chemical Biology, 2023, 19, 261-262.	3.9	3
970	Immunogenicity of CRISPR therapeuticsâ€"Critical considerations for clinical translation. Frontiers in Bioengineering and Biotechnology, 0, 11, .	2.0	9
971	Structural snapshots of R-loop formation by a type I-C CRISPR Cascade. Molecular Cell, 2023, 83, 746-758.e5.	4.5	5

#	Article	IF	Citations
973	CvkR is a MerR-type transcriptional repressor of class 2 type V-K CRISPR-associated transposase systems. Nature Communications, 2023, 14, .	5.8	3
974	Research and Therapeutic Approaches in Stem Cell Genome Editing by CRISPR Toolkit. Molecules, 2023, 28, 1982.	1.7	2
975	Phylogenetic Relationships among TnpB-Containing Mobile Elements in Six Bacterial Species. Genes, 2023, 14, 523.	1.0	1
976	Synthetic biology-based bioreactor and its application in biochemical analysis. Critical Reviews in Analytical Chemistry, 0, , 1-18.	1.8	0
977	Molecular basis of stepwise cyclic tetra-adenylate cleavage by the type III CRISPR ring nuclease Crn1/Sso2081. Nucleic Acids Research, 2023, 51, 2485-2495.	6.5	1
978	Regulation of CRISPR-Associated Genes by Rv1776c (CasR) in Mycobacterium tuberculosis. Biomolecules, 2023, 13, 400.	1.8	2
979	CRISPR-Cas adaptation in Escherichia coli. Bioscience Reports, 2023, 43, .	1.1	0
980	Importance of mobile genetic element immunity in numerically abundant Trichodesmium clades. ISME Communications, 2023, 3, .	1.7	4
981	Unveil the Secret of the Bacteria and Phage Arms Race. International Journal of Molecular Sciences, 2023, 24, 4363.	1.8	3
982	Genome editing for improving nutritional quality, post-harvest shelf life and stress tolerance of fruits, vegetables, and ornamentals. Frontiers in Genome Editing, 0, 5, .	2.7	3
983	Shotgun knockdown of RNA by CRISPR-Cas13d in fission yeast. Journal of Cell Science, 2023, 136, .	1.2	3
984	SARS-CoV-2 pandemics: An update of CRISPR in diagnosis and hostâ€“virus interaction studies. Biomedical Journal, 2023, 46, 100587.	1.4	4
985	Comparative genome analysis of the genus Shewanella unravels the association of key genetic traits with known and potential pathogenic lineages. Frontiers in Microbiology, 0, 14, .	1.5	4
986	In Silico Approaches for Prediction of Anti-CRISPR Proteins. Journal of Molecular Biology, 2023, 435, 168036.	2.0	3
987	CRISPR techniques and potential for the detection and discrimination of SARS-CoV-2 variants of concern. TrAC - Trends in Analytical Chemistry, 2023, 161, 117000.	5.8	11
988	Exploring microbial functional biodiversity at the protein family levelâ€”From metagenomic sequence reads to annotated protein clusters. Frontiers in Bioinformatics, 0, 3, .	1.0	2
989	Bioinformatic survey of CRISPR loci across 15 Serratia species. MicrobiologyOpen, 2023, 12, .	1.2	0
990	Acinetobacter Baumannii Phages: Past, Present and Future. Viruses, 2023, 15, 673.	1.5	9

#	Article	IF	Citations
991	Mechanisms regulating the CRISPR-Cas systems. Frontiers in Microbiology, 0, 14, .	1.5	2
993	Coexistence of blaKPC-IncFII plasmids and type I-E* CRISPR-Cas systems in ST15 Klebsiella pneumoniae. Frontiers in Microbiology, 0, 14, .	1.5	3
994	Diverse Mechanisms of CRISPR-Cas9 Inhibition by Type II Anti-CRISPR Proteins. Journal of Molecular Biology, 2023, 435, 168041.	2.0	6
997	Nucleases in gene-editing technologies: past and prologue. , 2023, , .		1
998	Advances in Genome Editing for Maize Improvement. , 2023, , 181-194.		0
999	CRISPR-assisted transcription activation by phase-separation proteins. Protein and Cell, 2023, 14, 874-887.	4.8	4
1001	Functional and Phylogenetic Diversity of Cas10 Proteins. CRISPR Journal, 2023, 6, 152-162.	1.4	3
1002	CRISPR/Cas9 and Agrobacterium tumefaciens virulence proteins synergistically increase efficiency of precise genome editing via homology directed repair in plants. Journal of Experimental Botany, 2023, 74, 3518-3530.	2.4	3
1003	Genome-engineering technologies for modeling and treatment of cystic fibrosis. Advances in Medical Sciences, 2023, 68, 111-120.	0.9	0
1004	Prospects for using CRISPR-Cas9 system in the treatment of human viral diseases. Acta Biomedica Scientifica, 2023, 8, 40-50.	0.1	0
1006	Diversity-Generating Retroelements in Prokaryotic Immunity. International Journal of Molecular Sciences, 2023, 24, 5614.	1.8	1
1007	Advances and Challenges in CRISPR/Cas-Based Fungal Genome Engineering for Secondary Metabolite Production: A Review. Journal of Fungi (Basel, Switzerland), 2023, 9, 362.	1.5	9
1008	Editing efficiencies with Cas9 orthologs, Cas12a endonucleases, and temperature in rice. Frontiers in Genome Editing, 0, 5, .	2.7	2
1009	Phage Against the Machine: Discovery and Mechanism of Type V Anti-CRISPRs. Journal of Molecular Biology, 2023, 435, 168054.	2.0	3
1011	Application of CRISPR-Cas9 gene editing technology in basic research, diagnosis and treatment of colon cancer. Frontiers in Endocrinology, 0, 14, .	1.5	4
1012	Periodontal Disease Pathogens, Pathogenesis, and Therapeutics: The CRISPR-Cas Effect. CRISPR Journal, 2023, 6, 90-98.	1.4	2
1013	CRISPR/Cas systems for the detection of nucleic acid and non-nucleic acid targets. Nano Research, 2023, 16, 9940-9953.	5.8	3
1014	Gene Therapy for Alzheimerâ€™s Disease. , 0, 36, 453-459.		0

#	Article	IF	Citations
1015	Integrated-gut-liver-on-a-chip platform as an in vitro human model of non-alcoholic fatty liver disease. Communications Biology, 2023, 6, .	2.0	14
1017	Craspase: A novel CRISPR/Cas dual gene editor. Functional and Integrative Genomics, 2023, 23, .	1.4	4
1018	MacSyFinder v2: Improved modelling and search engine to identify molecular systems in genomes. , 0, 3, .		14
1020	Advances in CRISPR/Cas gene therapy for inborn errors of immunity. Frontiers in Immunology, 0, 14, .	2.2	5
1021	Single-Stranded DNA-Binding Proteins Mediate DSB Repair and Effectively Improve CRISPR/Cas9 Genome Editing in Escherichia coli and Pseudomonas. Microorganisms, 2023, 11, 850.	1.6	0
1023	The CRISPR/Cas System: A Customizable Toolbox for Molecular Detection. Genes, 2023, 14, 850.	1.0	5
1025	TnpB structure reveals minimal functional core of Cas12 nuclease family. Nature, 2023, 616, 384-389.	13.7	27
1026	CRISPR-Based Biosensing Strategies: Technical Development and Application Prospects. Annual Review of Analytical Chemistry, 2023, 16, 311-332.	2.8	9
1027	Investigating the Relationship between CRISPR-Cas Content and Growth Rate in Bacteria. Microbiology Spectrum, 0, , .	1.2	0
1028	RNA-Dependent RNA Targeting by CRISPR-Cas Systems: Characterizations and Applications. International Journal of Molecular Sciences, 2023, 24, 6894.	1.8	4
1029	Engineered CRISPR-OsCas12f1 and RhCas12f1 with robust activities and expanded target range for genome editing. Nature Communications, 2023, 14, .	5.8	17
1030	The biology and type I/III hybrid nature of type I-D CRISPRâ€“Cas systems. Biochemical Journal, 2023, 480, 471-488.	1.7	0
1031	Programmable mammalian translational modulators by CRISPR-associated proteins. Nature Communications, 2023, 14, .	5.8	5
1032	Methodologies for the development of cereals and pseudocereals for improved quality and nutritional value. , 2023, , 205-231.		0
1036	Discovery of Diverse CRISPR-Cas Systems and Expansion of the Genome Engineering Toolbox. Biochemistry, 2023, 62, 3465-3487.	1.2	13
1044	Nucleic Acid Therapeutics. , 2022, , 350-402.		0
1047	Molecular Biology for Medicinal Chemists. , 2023, , 324-358.		0
1059	Expanding the RNA and RNP-Based Regulatory World in Mammalian Cells. , 2023, , 1-35.		0

#	Article	IF	Citations
1089	Genetics of microbial biofilm development. , 2023, , 19-38.		0
1103	Diagnostic applications and therapeutic option of Cascade CRISPR/Cas in the modulation of miRNA in diverse cancers: promises and obstacles. Journal of Cancer Research and Clinical Oncology, 2023, 149, 9557-9575.	1.2	2
1104	A review on CRISPR/Cas: a versatile tool for cancer screening, diagnosis, and clinic treatment. Functional and Integrative Genomics, 2023, 23, .	1.4	10
1113	Molecular and genetic insights into secondary metabolic regulation underlying insect-pest resistance in legumes. Functional and Integrative Genomics, 2023, 23, .	1.4	0
1124	CRISPR/Cas9 System: An Advanced Approach for the Improvement of Industrially Important Microorganisms. , 2023, , 69-97.		0
1125	Exploring Plant-Microbe Interaction Through the Lens of Genome Editing. , 2023, , 243-272.		0
1127	CRISPR/Cas-based electrochemical diagnostics. , 2023, , 372-410.		0
1133	In vivo treatment of tyrosinaemia with hypercompact Cas12f1. Cell Discovery, 2023, 9, .	3.1	1
1142	Evolution of Viral Diagnostics: A Peek into Time. , 2023, , 587-618.		0
1143	CRISPR/Cas-Based Diagnostics in Agricultural Applications. Journal of Agricultural and Food Chemistry, 2023, 71, 11765-11788.	2.4	1
1146	Expanding the RNA- and RNP-Based Regulatory World in Mammalian Cells. , 2023, , 2361-2395.		0
1159	CRISPR-influenced symbiosis. Nature Microbiology, 2023, 8, 1611-1612.	5.9	0
1174	Drug delivery systems for CRISPR-based genome editors. Nature Reviews Drug Discovery, 2023, 22, 875-894.	21.5	9
1176	Utility of CRISPR/Cas mediated electrochemical biosensors. Analytical Methods, 2023, 15, 3785-3801.	1.3	1
1185	Advances in bread wheat production through CRISPR/Cas9 technology: a comprehensive review of quality and other aspects. Planta, 2023, 258, .	1.6	2
1207	CRISPR/CAS: The Beginning of a New Era in Crop Improvement. , 2023, , 489-505.		1
1218	CRISPR/Cas in Improvement of Food Crops for Feeding the World into the Future. , 2023, , 529-566.		0
1223	Recent Advancements in CRISPR/Cas-based Genome Editing in Plants. , 2023, , 1-22.		0

#	Article	IF	Citations
1239	AcrTransAct: Pre-trained Protein Transformer Models for the Detection of Type I Anti-CRISPR Activities. , 2023, , .		0
1245	ANALYSIS OF CRISPR CASSETTE ELEMENTS IN NATIVE ISOLATES OF SINORHIZOBIUM MELILOTI ISOLATED IN THE CENTRAL ASIAN ORIGIN OF PLANT DIVERSITY. , 2023, , .		0
1267	Exploring the Archaeal Virosphere by Metagenomics. Methods in Molecular Biology, 2024, , 1-22.	0.4	0
1277	Reprogramming an RNA-guided archaeal TnpB endonuclease for genome editing. Cell Discovery, 2023, 9, .	3.1	0
1281	Overcoming Bacteriophage Resistance in Phage Therapy. Methods in Molecular Biology, 2024, , 401-410.	0.4	1
1288	Improving Plant Molecular Farming via Genome Editing. Concepts and Strategies in Plant Sciences, 2023, , 63-88.	0.6	0
1289	Application of CRISPR-Cas9 Technology in Fish. , 2023, , 15-38.		0
1300	Genetic Engineering of Therapeutic Phages Using Type III CRISPR-Cas Systems. Methods in Molecular Biology, 2024, , 279-299.	0.4	0
1313	Methods and Techniques to Select Efficient Guides for CRISPR-Mediated Genome Editing in Plants. , 2024, , 89-117.		0
1314	Novel Delivery Methods for CRISPR-Based Plant Genome Editing. , 2024, , 41-67.		0
1344	Bacterial CRISPR systems and applications. , 2024, , 633-652.		0
1346	CRISPR/Cas systems and techniques. , 2024, , 21-41.		0
1347	CRISPR-Cas system and its role in the development of viral disease diagnostics. , 2024, , 131-149.		0
1349	CRISPR technology commercialization and biosafety. , 2024, , 461-514.		0
1351	Regulatory framework of CRISPR-edited crops in the United States. , 2024, , 167-195.		0
1363	CRISPR/Cas-mediated germplasm improvement and new strategies for crop protection. , 2024, 2, .		0
1375	Cas-based bacterial detection: recent advances and perspectives. Analyst, The, 2024, 149, 1398-1415.	1.7	0
1376	How Gene Editing Is Changing Drug Development. , 2024, , 709-717.		0

#	Article	IF	Citations
1398	RNA Switches Using Cas Proteins. Methods in Molecular Biology, 2024, , 177-192.	0.4	0
1401	Applications of Graphene Field Effect Biosensors for Biological Sensing. Advances in Biochemical Engineering/Biotechnology, 2024, , .	0.6	0
1402	CRISPR-Cas and Its Applications in Food Production. , 2024, , 349-391.		0
1404	Nutrient Biofortification in Crop Plants by the CRISPR/Cas9 Technology: A Potential Approach for Sustainable Food Security. , 2024, , 333-348.		0
1407	CRISPR-based precision breeding of fruits, vegetables, and ornamental plants. , 2024, , 191-216.		0
1414	Can CRISPR/CAS Help Fight Multidrug Resistance (MDR) Bacterial Infections?. , 2024, , 95-111.		0
1416	Different Classes of CRISPR-Cas Systems. , 2024, , 73-94.		0
1417	CRISPR-Cas: A History of Discovery and Innovation. , 2024, , 1-16.		0
1418	Detailed Insight into Various Classes of the CRISPR/Cas System to Develop Future Crops. , 2024, , 227-279.		0
1420	Clustered Regularly Interspaced Short Palindromic Repeats (CRISPR)-Associated Proteins (Cas) [CRISPRâ€“Cas]: An Emerging Technique in Plant Disease Detection and Management. , 2024, , 589-645.		0
1421	CRISPR/Cas Systems for Enhancing Photosynthesis: Climate Resilience and Food Production. , 2024, , 477-519.		0
1422	CRISPR-based techniques and their application in plants. , 2024, , 91-104.		0
1423	CRISPR-Cas: Effectors, mechanism, and classification. , 2024, , 37-50.		0
1424	CRISPR genome editing of woody trees: Current status and future prospects. , 2024, , 401-418.		0
1425	Global patent landscape in CRISPR-Cas. , 2024, , 487-506.		0