Chase Beisel

List of Publications by Year
in descending order

74 papers	4,898 citations	126907 33 h-index	102487 66 g-index
88 all docs	88 docs citations	88 times ranked	5492 citing authors

#	Article	IF	Citations
1	Selfâ€Assembled DNA Nanoclews for the Efficient Delivery of CRISPRâ€“Cas9 for Genome Editing. Angewandte Chemie - International Edition, 2015, 54, 12029-12033.	13.8	517
2	Programmable Removal of Bacterial Strains by Use of Genome-Targeting CRISPR-Cas Systems. MBio, 2014, 5, e00928-13.	4.1	315
3	Identifying and Visualizing Functional PAM Diversity across CRISPR-Cas Systems. Molecular Cell, 2016, 62, 137-147.	9.7	290
4	Base pairing small RNAs and their roles in global regulatory networks. FEMS Microbiology Reviews, 2010, 34, 866-882.	8.6	256
5	Guide RNA Functional Modules Direct Cas9 Activity and Orthogonality. Molecular Cell, 2014, 56, 333-339.	9.7	214
6	Repurposing endogenous type I CRISPR-Cas systems for programmable gene repression. Nucleic Acids Research, 2015, 43, 674-681.	14.5	202
7	The Base-Pairing RNA Spot 42 Participates in a Multioutput Feedforward Loop to Help Enact Catabolite Repression in Escherichia coli. Molecular Cell, 2011, 41, 286-297.	9.7	197
8	Rapid and Scalable Characterization of CRISPR Technologies Using an E.Âcoli Cell-Free Transcription-Translation System. Molecular Cell, 2018, 69, 146-157.e3.	9.7	165
9	CRISPR technologies and the search for the PAM-free nuclease. Nature Communications, 2021, 12, 555.	12.8	148
10	Deciphering, Communicating, and Engineering the CRISPR PAM. Journal of Molecular Biology, 2017, 429, 177-191.	4.2	147
11	Design of small molecule-responsive microRNAs based on structural requirements for Drosha processing. Nucleic Acids Research, 2011, 39, 2981-2994.	14.5	130
12	CRISPR RNA-Dependent Binding and Cleavage of Endogenous RNAs by the Campylobacter jejuni Cas9. Molecular Cell, 2018, 69, 893-905.e7.	9.7	122
13	Design Principles for Riboswitch Function. PLoS Computational Biology, 2009, 5, e1000363.	3.2	115
14	Modelâ€guided design of ligandâ€regulated RNAi for programmable control of gene expression. Molecular Systems Biology, 2008, 4, 224.	7.2	104
15	Current and future prospects for CRISPRâ€based tools in bacteria. Biotechnology and Bioengineering, 2016, 113, 930-943.	3.3	100
16	Multiple factors dictate target selection by Hfq-binding small RNAs. EMBO Journal, 2012, 31, 1961-1974.	7.8	99
17	Bacterial Adaptation to the Host's Diet Is a Key Evolutionary Force Shaping Drosophila-Lactobacillus Symbiosis. Cell Host and Microbe, 2018, 24, 109-119.e6.	11.0	97
18	Synthetic Biology Approaches to Engineer Probiotics and Members of the Human Microbiota for Biomedical Applications. Annual Review of Biomedical Engineering, 2018, 20, 277-300.	12.3	83

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19	Noncanonical crRNAs derived from host transcripts enable multiplexable RNA detection by Cas9. Science, 2021, 372, 941-948.	12.6	83
20	Genome Editing with CRISPRâ€Cas9 in Lactobacillus plantarum Revealed That Editing Outcomes Can Vary Across Strains and Between Methods. Biotechnology Journal, 2019, 14, 1700583.	3.5	80
21	Short DNA containing Ï‡ sites enhances DNA stability and gene expression in E. coli cellâ€free transcriptionâ€“translation systems. Biotechnology and Bioengineering, 2017, 114, 2137-2141.	3.3	80
22	Barriers to genome editing with CRISPR in bacteria. Journal of Industrial Microbiology and Biotechnology, 2019, 46, 1327-1341.	3.0	78
23	Modular one-pot assembly of CRISPR arrays enables library generation and reveals factors influencing crRNA biogenesis. Nature Communications, 2019, 10, 2948.	12.8	75
24	Targeted transcriptional modulation with type I CRISPRâ€“Cas systems in human cells. Nature Biotechnology, 2019, 37, 1493-1501.	17.5	73
25	CRISPR-Cas Systems and the Paradox of Self-Targeting Spacers. Frontiers in Microbiology, 2019, 10, 3078.	3.5	67
26	Competitive Exclusion Is a Major Bioprotective Mechanism of Lactobacilli against Fungal Spoilage in Fermented Milk Products. Applied and Environmental Microbiology, 2020, 86, .	3.1	61
27	Synthetic control of a fitness tradeoff in yeast nitrogen metabolism. Journal of Biological Engineering, 2009, 3, 1.	4.7	59
28	A CRISPR design for next-generation antimicrobials. Genome Biology, 2014, 15, 516.	8.8	57
29	Toward a genetic tool development pipeline for host-associated bacteria. Current Opinion in Microbiology, 2017, 38, 156-164.	5.1	53
30	Bacterial sugar utilization gives rise to distinct singleâ€cell behaviours. Molecular Microbiology, 2014, 93, 1093-1103.	2.5	51
31	Cochlear whole mount in situ hybridization: identification of longitudinal and radial gradients. Brain Research Protocols, 2002, 9, 65-76.	1.6	42
32	The CRISPR RNA-guided surveillance complex inEscherichia coliaccommodates extended RNA spacers. Nucleic Acids Research, 2016, 44, gkw421.	14.5	42
33	Mathematical Modeling of RNA-Based Architectures for Closed Loop Control of Gene Expression. ACS Synthetic Biology, 2018, 7, 1219-1228.	3.8	42
34	Distinct timescales of RNA regulators enable the construction of a genetic pulse generator. Biotechnology and Bioengineering, 2019, 116, 1139-1151.	3.3	40
35	Characterization of the allâ€<scp>E. coli</scp> transcriptionâ€translation system myTXTL by mass spectrometry. Rapid Communications in Mass Spectrometry, 2019, 33, 1036-1048.	1.5	38
36	A detailed cell-free transcription-translation-based assay to decipher CRISPR protospacer-adjacent motifs. Methods, 2018, 143, 48-57.	3.8	36

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37	Coupling smartphone and <scp>CRISPRâ€“Cas12a</scp> for digital and multiplexed <scp>nucleic acid</scp> detection. AICHE Journal, 2021, 67, e17365.	3.6	35
38	An educational module to explore CRISPR technologies with a cell-free transcription-translation system. Synthetic Biology, 2019, 4, ysz005.	2.2	34
39	Characterization of Cas12a nucleases reveals diverse PAM profiles between closely-related orthologs. Nucleic Acids Research, 2020, 48, 5624-5638.	14.5	34
40	A genetically encoded anti-CRISPR protein constrains gene drive spread and prevents population suppression. Nature Communications, 2021, 12, 3977.	12.8	34
41	In Situ Biomanufacturing of Small Molecules in the Mammalian Gut by Probiotic Saccharomyces boulardii. ACS Synthetic Biology, 2021, 10, 1039-1052.	3.8	32
42	The tracrRNA in CRISPR Biology and Technologies. Annual Review of Genetics, 2021, 55, 161-181.	7.6	27
43	Rethinking the Hierarchy of Sugar Utilization in Bacteria. Journal of Bacteriology, 2016, 198, 374-376.	2.2	26
44	Sequence-independent RNA sensing and DNA targeting by a split domain CRISPRâ€“Cas12a gRNA switch. Nucleic Acids Research, 2021, 49, 2985-2999.	14.5	26
45	Understanding and exploiting feedback in synthetic biology. Chemical Engineering Science, 2013, 103, 79-90.	3.8	25
46	Advancing the design and delivery of CRISPR antimicrobials. Current Opinion in Biomedical Engineering, 2017, 4, 57-64.	3.4	25
47	Discriminating tastes. RNA Biology, 2011, 8, 766-770.	3.1	23
48	An enhanced assay to characterize anti-CRISPR proteins using a cell-free transcription-translation system. Methods, 2020, 172, 42-50.	3.8	21
49	A positive, growth-based PAM screen identifies noncanonical motifs recognized by the S. pyogenes Cas9. Science Advances, 2020, 6, eabb4054.	10.3	21
50	The Acidaminococcus sp. Cas12a nuclease recognizes GTTV and GCTV as non-canonical PAMs. FEMS Microbiology Letters, 2019, 366, .	1.8	17
51	The Francisella novicida Cas12a is sensitive to the structure downstream of the terminal repeat in CRISPR arrays. RNA Biology, 2019, 16, 404-412.	3.1	17
52	Anti-CRISPR prediction using deep learning reveals an inhibitor of Cas13b nucleases. Molecular Cell, 2022, 82, 2714-2726.e4.	9.7	17
53	Differentially Optimized Cell-Free Buffer Enables Robust Expression from Unprotected Linear DNA in Exonuclease-Deficient Extracts. ACS Synthetic Biology, 2022, 11, 732-746.	3.8	16
54	Trade-offs in Engineering Sugar Utilization Pathways for Titratable Control. ACS Synthetic Biology, 2015, 4, 141-149.	3.8	12

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55	Rapid cell-free characterization of multi-subunit CRISPR effectors and transposons. Molecular Cell, 2022, 82, 1210-1224.e6.	9.7	10
56	Spacer prioritization in CRISPRâ€“Cas9 immunity is enabled by the leader RNA. Nature Microbiology, 2022, 7, 530-541.	13.3	9
57	A target expression threshold dictates invader defense and prevents autoimmunity by CRISPR-Cas13. Cell Host and Microbe, 2022, 30, 1151-1162.e6.	11.0	9
58	Beneficial commensal bacteria promote Drosophila growth by downregulating the expression of peptidoglycan recognition proteins. IScience, 2022, 25, 104357.	4.1	8
59	Construction of Ligand-Responsive MicroRNAs that Operate Through Inhibition of Drosha Processing. Methods in Molecular Biology, 2014, 1111, 259-267.	0.9	6
60	Rapid Testing of CRISPR Nucleases and GuideÂRNAs in an E.Âcoli Cell-Free Transcription-Translation System. STAR Protocols, 2020, 1, 100003.	1.2	5
61	Conformational analysis of gossypol and its derivatives by molecular mechanics. Computational and Theoretical Chemistry, 2005, 730, 51-58.	1.5	3
62	Genome Editing with Cas9 in Lactobacilli. Methods in Molecular Biology, 2022, 2479, 245-261.	0.9	3
63	Advances in CRISPR Technologies for Microbial Strain Engineering. Biotechnology Journal, 2018, 13, e1800460.	3.5	2
64	CRATES: A one-step assembly method for Class 2 CRISPR arrays. Methods in Enzymology, 2019, 629, 493-511.	1.0	2
65	Tunable self-cleaving ribozymes for modulating gene expression in eukaryotic systems. PLoS ONE, 2020, 15, e0232046.	2.5	2
66	CRISPR transposons on the move. Cell Host and Microbe, 2021, 29, 675-677.	11.0	2
67	Rapidly Characterizing CRISPR-Cas13 Nucleases Using Cell-Free Transcription-Translation Systems. Methods in Molecular Biology, 2022, 2404, 135-153.	0.9	2
68	CRISPR tool puts RNA on the record. Nature, 2018, 562, 347-349.	27.8	1
69	Illuminating the path to DNA repair. Cell, 2021, 184, 5503-5505.	28.9	1
70	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.	0.9	1
71	CRISPR memories in single cells. Molecular Systems Biology, 2022, 18, e11011.	7.2	1
72	Impact of Residual Inducer on Titratable Expression Systems. PLoS ONE, 2015, 10, e0137421.	2.5	0

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73	Your Base Editor Might Be Flirting with Single (Stranded) DNA: Faithful On-Target CRISPR Base Editing without Promiscuous Deamination. Molecular Cell, 2020, 79, 703-704.	9.7	0
74	Methods for characterizing, applying, and teaching CRISPR-Cas systems. Methods, 2020, 172, 1-2.	3.8	0