Benjamin J Hackel

List of Publications by Year
in descending order

73 papers	2,783 citations	236925 25 h-index	189892 50 g-index
78 all docs	78 docs citations	78 times ranked	3190 citing authors

#	Article	IF	Citations
1	Isolating and engineering human antibodies using yeast surface display. Nature Protocols, 2006, 1, 755-768.	12.0	792
2	Picomolar Affinity Fibronectin Domains Engineered Utilizing Loop Length Diversity, Recursive Mutagenesis, and Loop Shuffling. Journal of Molecular Biology, 2008, 381, 1238-1252.	4.2	148
3	Fmoc-Based Synthesis of Peptide Î±-Thioesters Using an Aryl Hydrazine Supportâ€. Journal of Organic Chemistry, 2004, 69, 4145-4151.	3.2	128
4	Evolution of an Interloop Disulfide Bond in High-Affinity Antibody Mimics Based on Fibronectin Type III Domain and Selected by Yeast Surface Display: Molecular Convergence with Single-Domain Camelid and Shark Antibodies. Journal of Molecular Biology, 2007, 368, 1024-1041.	4.2	95
5	Pharmacokinetically Stabilized Cystine Knot Peptides That Bind Alpha-v-Beta-6 Integrin with Single-Digit Nanomolar Affinities for Detection of Pancreatic Cancer. Clinical Cancer Research, 2012, 18, 839-849.	7.0	95
6	Highly avid magnetic bead capture: An efficient selection method for de novo protein engineering utilizing yeast surface display. Biotechnology Progress, 2009, 25, 774-783.	2.6	77
7	Stability and CDR Composition Biases Enrich Binder Functionality Landscapes. Journal of Molecular Biology, 2010, 401, 84-96.	4.2	76
8	Convergent Potency of Internalized Gelonin Immunotoxins across Varied Cell Lines, Antigens, and Targeting Moieties. Journal of Biological Chemistry, 2011, 286, 4165-4172.	3.4	66
9	Production of Soluble and Active Transferrin Receptor-Targeting Single-Chain Antibody using Saccharomyces cerevisiae. Pharmaceutical Research, 2006, 23, 790-797.	3.5	61
10	Multivalent Ligand Binding to Cell Membrane Antigens: Defining the Interplay of Affinity, Valency, and Expression Density. Journal of the American Chemical Society, 2019, 141, 251-261.	13.7	59
11	Alternative non-antibody protein scaffolds for molecular imaging of cancer. Current Opinion in Chemical Engineering, 2013, 2, 425-432.	7.8	57
12	Use of⁶⁴Cu-labeled Fibronectin Domain with EGFR-Overexpressing Tumor Xenograft: Molecular Imaging. Radiology, 2012, 263, 179-188.	7.3	53
13	A 45-Amino-Acid Scaffold Mined from the PDB for High-Affinity Ligand Engineering. Chemistry and Biology, 2015, 22, 946-956.	6.0	51
14	¹⁸F-Fluorobenzoateâ€"Labeled Cystine Knot Peptides for PET Imaging of Integrin Î±_vÎ²₆. Journal of Nuclear Medicine, 2013, 54, 1101-1105.	5.0	48
15	Engineering Fibronectin-Based Binding Proteins by Yeast Surface Display. Methods in Enzymology, 2013, 523, 303-326.	1.0	47
16	A Novel Engineered Anti-CD20 Tracer Enables Early Time PET Imaging in a Humanized Transgenic Mouse Model of B-cell Non-Hodgkins Lymphoma. Clinical Cancer Research, 2013, 19, 6820-6829.	7.0	45
17	Ultrasound Molecular Imaging of the Breast Cancer Neovasculature using Engineered Fibronectin Scaffold Ligands: A Novel Class of Targeted Contrast Ultrasound Agent. Theranostics, 2016, 6, 1740-1752.	10.0	38
18	High-Throughput Ligand Discovery Reveals a Sitewise Gradient of Diversity in Broadly Evolved Hydrophilic Fibronectin Domains. PLoS ONE, 2015, 10, e0138956.	2.5	35

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19	The full amino acid repertoire is superior to serine/tyrosine for selection of high affinity immunoglobulin G binders from the fibronectin scaffold. Protein Engineering, Design and Selection, 2010, 23, 211-219.	2.1	33
20	Geometry and expression enhance enrichment of functional yeastâ€displayed ligands via cell panning. Biotechnology and Bioengineering, 2016, 113, 2328-2341.	3.3	32
21	A Gradient of Sitewise Diversity Promotes Evolutionary Fitness for Binder Discovery in a Three-Helix Bundle Protein Scaffold. Biochemistry, 2017, 56, 1656-1671.	2.5	32
22	Affibody-Indocyanine Green Based Contrast Agent for Photoacoustic and Fluorescence Molecular Imaging of B7â€“H3 Expression in Breast Cancer. Bioconjugate Chemistry, 2019, 30, 1677-1689.	3.6	32
23	Quantifying Binding of Ethylene Oxideâ€“Propylene Oxide Block Copolymers with Lipid Bilayers. Langmuir, 2017, 33, 12624-12634.	3.5	31
24	Titratable Avidity Reduction Enhances Affinity Discrimination in Mammalian Cellular Selections of Yeast-Displayed Ligands. ACS Combinatorial Science, 2017, 19, 315-323.	3.8	29
25	Fine Epitope Mapping of the CD19 Extracellular Domain Promotes Design. Biochemistry, 2019, 58, 4869-4881.	2.5	29
26	Retargeting CD19 Chimeric Antigen Receptor T Cells via Engineered CD19-Fusion Proteins. Molecular Pharmaceutics, 2019, 16, 3544-3558.	4.6	29
27	Chemical End Group Modified Diblock Copolymers Elucidate Anchor and Chain Mechanism of Membrane Stabilization. Molecular Pharmaceutics, 2017, 14, 2333-2339.	4.6	28
28	Directed Evolution of Brain-Derived Neurotrophic Factor for Improved Folding and Expression in Saccharomyces cerevisiae. Applied and Environmental Microbiology, 2014, 80, 5732-5742.	3.1	26
29	Targeting Insulin Receptor in Breast Cancer Using Small Engineered Protein Scaffolds. Molecular Cancer Therapeutics, 2017, 16, 1324-1334.	4.1	26
30	Epidermal growth factor receptor downregulation by small heterodimeric binding proteins. Protein Engineering, Design and Selection, 2012, 25, 47-57.	2.1	25
31	Cardiac Muscle Membrane Stabilization in Myocardial Reperfusion Injury. JACC Basic To Translational Science, 2019, 4, 275-287.	4.1	24
32	PEOâ€“PPO Diblock Copolymers Protect Myoblasts from Hypo-Osmotic Stress In Vitro Dependent on Copolymer Size, Composition, and Architecture. Biomacromolecules, 2017, 18, 2090-2101.	5.4	23
33	Efficacy of Affibody-Based Ultrasound Molecular Imaging of Vascular B7-H3 for Breast Cancer Detection. Clinical Cancer Research, 2020, 26, 2140-2150.	7.0	23
34	Designed hydrophilic and charge mutations of the fibronectin domain: towards tailored protein biodistribution. Protein Engineering, Design and Selection, 2012, 25, 639-648.	2.1	21
35	Engineering Reversible Cellâ€“Cell Interactions with Lipid Anchored Prosthetic Receptors. Bioconjugate Chemistry, 2018, 29, 1291-1301.	3.6	19
36	Identification and elucidation of prolineâ€rich antimicrobial peptides with enhanced potency and delivery. Biotechnology and Bioengineering, 2019, 116, 2439-2450.	3.3	19

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37	Influence of Cholesterol and Bilayer Curvature on the Interaction of PPOâ€“PEO Block Copolymers with Liposomes. Langmuir, 2019, 35, 7231-7241.	3.5	19
38	Surface Plasmon Resonance Study of the Binding of PEOâ€“PPOâ€“PEO Triblock Copolymer and PEO Homopolymer to Supported Lipid Bilayers. Langmuir, 2018, 34, 6703-6712.	3.5	18
39	Improved mutant function prediction via PACT: Protein Analysis and Classifier Toolkit. Bioinformatics, 2019, 35, 2707-2712.	4.1	18
40	High-throughput developability assays enable library-scale identification of producible protein scaffold variants. Proceedings of the National Academy of Sciences of the United States of America, 2021, 118, .	7.1	18
41	Cellular-Based Selections Aid Yeast-Display Discovery of Genuine Cell-Binding Ligands: Targeting Oncology Vascular Biomarker CD276. ACS Combinatorial Science, 2019, 21, 207-222.	3.8	17
42	Constrained Combinatorial Libraries of Gp2 Proteins Enhance Discovery of PD-L1 Binders. ACS Combinatorial Science, 2018, 20, 423-435.	3.8	16
43	Validation and Stabilization of a Prophage Lysin of Clostridium perfringens by Using Yeast Surface Display and Coevolutionary Models. Applied and Environmental Microbiology, 2019, 85, .	3.1	16
44	Biophysical Characterization Platform Informs Protein Scaffold Evolvability. ACS Combinatorial Science, 2019, 21, 323-335.	3.8	14
45	Influence of the Headgroup on the Interaction of Poly(ethylene oxide)-Poly(propylene oxide) Block Copolymers with Lipid Bilayers. Journal of Physical Chemistry B, 2020, 124, 2417-2424.	2.6	14
46	Spatial Distribution of PEOâ€“PPOâ€“PEO Block Copolymer and PEO Homopolymer in Lipid Bilayers. Langmuir, 2020, 36, 3393-3403.	3.5	14
47	Anti-CD19 CAR T cells potently redirected to kill solid tumor cells. PLoS ONE, 2021, 16, e0247701.	2.5	14
48	⁶⁴Cu-Labeled Gp2 Domain for PET Imaging of Epidermal Growth Factor Receptor. Molecular Pharmaceutics, 2016, 13, 3747-3755.	4.6	13
49	Systematic mutagenesis of oncocin reveals enhanced activity and insights into the mechanisms of antimicrobial activity. Molecular Systems Design and Engineering, 2018, 3, 930-941.	3.4	12
50	PyMOL360: Multi-user gamepad control of molecular visualization software. Journal of Computational Chemistry, 2016, 37, 2667-2669.	3.3	11
51	Engineered Charge Redistribution of Gp2 Proteins through Guided Diversity for Improved PET Imaging of Epidermal Growth Factor Receptor. Bioconjugate Chemistry, 2018, 29, 1646-1658.	3.6	9
52	Evaluation of affibody charge modification identified by synthetic consensus design in molecular PET imaging of epidermal growth factor receptor. Molecular Systems Design and Engineering, 2018, 3, 171-182.	3.4	8
53	Multispecies activity screening of microcin J25 mutants yields antimicrobials with increased specificity toward pathogenic <i>Salmonella</i> species relative to human commensal <i>Escherichia coli</i>. Biotechnology and Bioengineering, 2018, 115, 2394-2404.	3.3	8
54	Engineered protein-small molecule conjugates empower selective enzyme inhibition. Cell Chemical Biology, 2022, 29, 328-338.e4.	5.2	8

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55	Enterocin A mutants identified by saturation mutagenesis enhance potency towards vancomycinâ€resistant Enterococci. Biotechnology and Bioengineering, 2016, 113, 414-423.	3.3	7
56	Synthetic and natural consensus design for engineering charge within an affibody targeting epidermal growth factor receptor. Biotechnology and Bioengineering, 2016, 113, 1628-1638.	3.3	7
57	Magnetic Bead-Immobilized Mammalian Cells Are Effective Targets to Enrich Ligand-Displaying Yeast. ACS Combinatorial Science, 2020, 22, 274-284.	3.8	7
58	A Platform for Deep Sequenceâ€"Activity Mapping and Engineering Antimicrobial Peptides. ACS Synthetic Biology, 2021, 10, 2689-2704.	3.8	7
59	Synthesis and Micellization of Bottlebrush Poloxamers. ACS Macro Letters, 2022, 11, 460-467.	4.8	7
60	ScaffoldSeq: Software for characterization of directed evolution populations. Proteins: Structure, Function and Bioinformatics, 2016, 84, 869-874.	2.6	6
61	Development and Implementation of a Proteinâ€"Protein Binding Experiment To Teach Intermolecular Interactions in High School or Undergraduate Classrooms. Journal of Chemical Education, 2017, 94, 367-374.	2.3	6
62	Noncompetitive Allosteric Antagonism of Death Receptor 5 by a Synthetic Affibody Ligand. Biochemistry, 2020, 59, 3856-3868.	2.5	5
63	Mining and Statistical Modeling of Natural and Variant Class IIa Bacteriocins Elucidate Activity and Selectivity Profiles across Species. Applied and Environmental Microbiology, 2020, 86, .	3.1	5
64	Concentration Threshold for Membrane Protection by PEOâ€"PPO Block Copolymers with Variable Molecular Architectures. ACS Applied Polymer Materials, 2022, 4, 3259-3269.	4.4	4
65	Engineering an EGFRâ€binding Gp2 domain for increased hydrophilicity. Biotechnology and Bioengineering, 2019, 116, 526-535.	3.3	3
66	Extended yeast surface display linkers enhance the enrichment of ligands in direct mammalian cell selections. Protein Engineering, Design and Selection, 2021, 34, .	2.1	3
67	Ligand Engineering via Yeast Surface Display and Adherent Cell Panning. Methods in Molecular Biology, 2020, 2070, 303-320.	0.9	3
68	Computationally Aided Discovery of LysEFm5 Variants with Improved Catalytic Activity and Stability. Applied and Environmental Microbiology, 2020, 86, .	3.1	2
69	Alternative Protein Scaffolds for Molecular Imaging and Therapy. , 2014, , 343-364.		2
70	Abstract 1881: Insulin receptor targeting in breast cancer through yeast surface display. Cancer Research, 2016, 76, 1881-1881.	0.9	1
71	Ligand Engineering Using Yeast Surface Display. Methods in Molecular Biology, 2014, 1163, 257-271.	0.9	1
72	Poloxamer 188 does not Target Altered Ca 2+ Channels in Cardiomyocytes during Hypoxia/Reoxygenation Injury. FASEB Journal, 2018, 32, 698.7.	0.5	0

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73	Discovery of Tumor Necrosis Factor Receptor Binders using Yeast Surface Display. FASEB Journal, 2018, 32, 798.18.	0.5	0