Leah E Cowen

List of Publications by Year
in descending order

135 papers	10,335 citations	41258 49 h-index	37111 96 g-index
198 all docs	198 docs citations	198 times ranked	7899 citing authors

#	Article	IF	Citations
1	Hsp90 Potentiates the Rapid Evolution of New Traits: Drug Resistance in Diverse Fungi. Science, 2005, 309, 2185-2189.	6.0	602
2	Regulatory Circuitry Governing Fungal Development, Drug Resistance, and Disease. Microbiology and Molecular Biology Reviews, 2011, 75, 213-267.	2.9	448
3	Mechanisms of Antifungal Drug Resistance. Cold Spring Harbor Perspectives in Medicine, 2015, 5, a019752.	2.9	419
4	Harnessing Hsp90 function as a powerful, broadly effective therapeutic strategy for fungal infectious disease. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 2818-2823.	3.3	353
5	Antifungal Drug Resistance: Molecular Mechanisms in <i>Candida albicans</i> and Beyond. Chemical Reviews, 2021, 121, 3390-3411.	23.0	338
6	Antifungal drug resistance: evolution, mechanisms and impact. Current Opinion in Microbiology, 2018, 45, 70-76.	2.3	323
7	Molecular Evolution of Antifungal Drug Resistance. Annual Review of Microbiology, 2017, 71, 753-775.	2.9	303
8	Hsp90 Governs Echinocandin Resistance in the Pathogenic Yeast Candida albicans via Calcineurin. PLoS Pathogens, 2009, 5, e1000532.	2.1	296
9	Acquisition of Aneuploidy Provides Increased Fitness during the Evolution of Antifungal Drug Resistance. PLoS Genetics, 2009, 5, e1000705.	1.5	293
10	Threats Posed by the Fungal Kingdom to Humans, Wildlife, and Agriculture. MBio, 2020, 11, .	1.8	275
11	Hsp90 Orchestrates Temperature-Dependent Candida albicans Morphogenesis via Ras1-PKA Signaling. Current Biology, 2009, 19, 621-629.	1.8	266
12	The evolution of fungal drug resistance: modulating the trajectory from genotype to phenotype. Nature Reviews Microbiology, 2008, 6, 187-198.	13.6	265
13	PKC Signaling Regulates Drug Resistance of the Fungal Pathogen Candida albicans via Circuitry Comprised of Mkc1, Calcineurin, and Hsp90. PLoS Pathogens, 2010, 6, e1001069.	2.1	263
14	Stress, Drugs, and Evolution: the Role of Cellular Signaling in Fungal Drug Resistance. Eukaryotic Cell, 2008, 7, 747-764.	3.4	238
15	Hsp90 Governs Dispersion and Drug Resistance of Fungal Biofilms. PLoS Pathogens, 2011, 7, e1002257.	2.1	231
16	Evolution of Drug Resistance in Experimental Populations of Candida albicans. Journal of Bacteriology, 2000, 182, 1515-1522.	1.0	191
17	Global analysis of fungal morphology exposes mechanisms of host cell escape. Nature Communications, 2015, 6, 6741.	5.8	191
18	Global Gene Deletion Analysis Exploring Yeast Filamentous Growth. Science, 2012, 337, 1353-1356.	6.0	186

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19	Antifungal Drugs: The Current Armamentarium and Development of New Agents. Microbiology Spectrum, 2016, 4, .	1.2	159
20	Global Analysis of the Evolution and Mechanism of Echinocandin Resistance in Candida glabrata. PLoS Pathogens, 2012, 8, e1002718.	2.1	158
21	Genetic Architecture of Hsp90-Dependent Drug Resistance. Eukaryotic Cell, 2006, 5, 2184-2188.	3.4	149
22	Treatment strategies for cryptococcal infection: challenges, advances and future outlook. Nature Reviews Microbiology, 2021, 19, 454-466.	13.6	142
23	Evolution of Drug Resistance inCandida Albicans. Annual Review of Microbiology, 2002, 56, 139-165.	2.9	134
24	Mode of Selection and Experimental Evolution of Antifungal Drug Resistance in <i>Saccharomyces cerevisiae</i>. Genetics, 2003, 163, 1287-1298.	1.2	134
25	Population genomics of drug resistance in Candida albicans. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 9284-9289.	3.3	133
26	Hsp90 Orchestrates Stress Response Signaling Governing Fungal Drug Resistance. PLoS Pathogens, 2009, 5, e1000471.	2.1	114
27	Thermal Control of Microbial Development and Virulence: Molecular Mechanisms of Microbial Temperature Sensing. MBio, 2012, 3, .	1.8	106
28	Divergence in Fitness and Evolution of Drug Resistance in Experimental Populations of Candida albicans. Journal of Bacteriology, 2001, 183, 2971-2978.	1.0	102
29	Hsp90 Orchestrates Transcriptional Regulation by Hsf1 and Cell Wall Remodelling by MAPK Signalling during Thermal Adaptation in a Pathogenic Yeast. PLoS Pathogens, 2012, 8, e1003069.	2.1	102
30	Mapping the Hsp90 Genetic Interaction Network in Candida albicans Reveals Environmental Contingency and Rewired Circuitry. PLoS Genetics, 2012, 8, e1002562.	1.5	98
31	Lysine Deacetylases Hda1 and Rpd3 Regulate Hsp90 Function thereby Governing Fungal Drug Resistance. Cell Reports, 2012, 2, 878-888.	2.9	96
32	The fungal Achillesâ€™ heel: targeting Hsp90 to cripple fungal pathogens. Current Opinion in Microbiology, 2013, 16, 377-384.	2.3	92
33	Infrequent Genetic Exchange and Recombination in the Mitochondrial Genome of Candida albicans. Journal of Bacteriology, 2001, 183, 865-872.	1.0	91
34	Genetic and Genomic Architecture of the Evolution of Resistance to Antifungal Drug Combinations. PLoS Genetics, 2013, 9, e1003390.	1.5	90
35	Structural basis for species-selective targeting of Hsp90 in a pathogenic fungus. Nature Communications, 2019, 10, 402.	5.8	85
36	Fungal Hsp90: a biological transistor that tunes cellular outputs to thermal inputs. Nature Reviews Microbiology, 2012, 10, 693-704.	13.6	84

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37	Methodologies for in vitro and in vivo evaluation of efficacy of antifungal and antibiofilm agents and surface coatings against fungal biofilms. Microbial Cell, 2018, 5, 300-326.	1.4	81
38	Dual action antifungal small molecule modulates multidrug efflux and TOR signaling. Nature Chemical Biology, 2016, 12, 867-875.	3.9	79
39	Pho85, Pcl1, and Hms1 Signaling Governs Candida albicans Morphogenesis Induced by High Temperature or Hsp90 Compromise. Current Biology, 2012, 22, 461-470.	1.8	77
40	Hsf1 and Hsp90 orchestrate temperature-dependent global transcriptional remodelling and chromatin architecture in Candida albicans. Nature Communications, 2016, 7, 11704.	5.8	77
41	Genetic Analysis of <i>Candida auris</i> Implicates Hsp90 in Morphogenesis and Azole Tolerance and Cdr1 in Azole Resistance. MBio, 2019, 10, .	1.8	77
42	The Hsp90 Co-Chaperone Sgt1 Governs Candida albicans Morphogenesis and Drug Resistance. PLoS ONE, 2012, 7, e44734.	1.1	74
43	Global Analysis of the Fungal Microbiome in Cystic Fibrosis Patients Reveals Loss of Function of the Transcriptional Repressor Nrg1 as a Mechanism of Pathogen Adaptation. PLoS Pathogens, 2015, 11, e1005308.	2.1	74
44	Elucidating drug resistance in human fungal pathogens. Future Microbiology, 2014, 9, 523-542.	1.0	66
45	Opportunistic yeast pathogens: reservoirs, virulence mechanisms, and therapeutic strategies. Cellular and Molecular Life Sciences, 2015, 72, 2261-2287.	2.4	63
46	The Hsp90 Chaperone Network Modulates Candida Virulence Traits. Trends in Microbiology, 2017, 25, 809-819.	3.5	63
47	The <i>Candida albicans pescadillo</i> homolog is required for normal hypha-to-yeast morphogenesis and yeast proliferation. Proceedings of the National Academy of Sciences of the United States of America, 2008, 105, 20918-20923.	3.3	62
48	Cdc28 provides a molecular link between Hsp90, morphogenesis, and cell cycle progression in<i>Candida albicans</i>. Molecular Biology of the Cell, 2012, 23, 268-283.	0.9	61
49	Fitness Trade-Offs Associated with the Evolution of Resistance to Antifungal Drug Combinations. Cell Reports, 2015, 10, 809-819.	2.9	58
50	High-Throughput Screening Identifies Genes Required for <i>Candida albicans</i> Induction of Macrophage Pyroptosis. MBio, 2018, 9, .	1.8	58
51	A small molecule produced by Lactobacillus species blocks Candida albicans filamentation by inhibiting a DYRK1-family kinase. Nature Communications, 2021, 12, 6151.	5.8	50
52	The Candida albicans transcription factor Cas5 couples stress responses, drug resistance and cell cycle regulation. Nature Communications, 2017, 8, 499.	5.8	49
53	Overcoming Fungal Echinocandin Resistance through Inhibition of the Non-essential Stress Kinase Yck2. Cell Chemical Biology, 2020, 27, 269-282.e5.	2.5	49
54	An oxindole efflux inhibitor potentiates azoles and impairs virulence in the fungal pathogen Candida auris. Nature Communications, 2020, 11, 6429.	5.8	49

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55	Coupling temperature sensing and development. Virulence, 2010, 1, 45-48.	1.8	48
56	Using combination therapy to thwart drug resistance. Future Microbiology, 2015, 10, 1719-1726.	1.0	48
57	Beauvericin Potentiates Azole Activity via Inhibition of Multidrug Efflux, Blocks Candida albicans Morphogenesis, and Is Effluxed via Yor1 and Circuitry Controlled by Zcf29. Antimicrobial Agents and Chemotherapy, 2016, 60, 7468-7480.	1.4	48
58	Membrane Fluidity and Temperature Sensing Are Coupled via Circuitry Comprised of Ole1, Rsp5, and Hsf1 in Candida albicans. Eukaryotic Cell, 2014, 13, 1077-1084.	3.4	46
59	Stress Adaptation. Microbiology Spectrum, 2017, 5, .	1.2	46
60	Design and Synthesis of Fungal-Selective Resorcylate Aminopyrazole Hsp90 Inhibitors. Journal of Medicinal Chemistry, 2020, 63, 2139-2180.	2.9	46
61	Functional Genomic Screening Reveals Core Modulators of Echinocandin Stress Responses in Candida albicans. Cell Reports, 2018, 23, 2292-2298.	2.9	42
62	Tuning Hsf1 levels drives distinct fungal morphogenetic programs with depletion impairing Hsp90 function and overexpression expanding the target space. PLoS Genetics, 2018, 14, e1007270.	1.5	42
63	Integrin-based diffusion barrier separates membrane domains enabling the formation of microbiostatic frustrated phagosomes. ELife, 2018, 7, .	2.8	41
64	Hsp90-dependent regulatory circuitry controlling temperature-dependent fungal development and virulence. Cellular Microbiology, 2014, 16, 473-481.	1.1	40
65	Metal Chelation as a Powerful Strategy to Probe Cellular Circuitry Governing Fungal Drug Resistance and Morphogenesis. PLoS Genetics, 2016, 12, e1006350.	1.5	39
66	Global analysis of genetic circuitry and adaptive mechanisms enabling resistance to the azole antifungal drugs. PLoS Genetics, 2018, 14, e1007319.	1.5	37
67	Surviving the Heat of the Moment: A Fungal Pathogens Perspective. PLoS Pathogens, 2013, 9, e1003163.	2.1	36
68	Progress and prospects for targeting Hsp90 to treat fungal infections. Parasitology, 2014, 141, 1127-1137.	0.7	36
69	Mapping the Hsp90 Genetic Network Reveals Ergosterol Biosynthesis and Phosphatidylinositol-4-Kinase Signaling as Core Circuitry Governing Cellular Stress. PLoS Genetics, 2016, 12, e1006142.	1.5	36
70	Signaling through Lrg1, Rho1 and Pkc1 Governs Candida albicans Morphogenesis in Response to Diverse Cues. PLoS Genetics, 2016, 12, e1006405.	1.5	35
71	Multilocus Genotypes and DNA Fingerprints Do Not Predict Variation in Azole Resistance among Clinical Isolates of Candida albicans. Antimicrobial Agents and Chemotherapy, 1999, 43, 2930-2938.	1.4	35
72	Metabolic control of antifungal drug resistance. Fungal Genetics and Biology, 2010, 47, 81-93.	0.9	34

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73	Global proteomic analyses define an environmentally contingent Hsp90 interactome and reveal chaperone-dependent regulation of stress granule proteins and the R2TP complex in a fungal pathogen. PLoS Biology, 2019, 17, e3000358.	2.6	34
74	Ydj1 governs fungal morphogenesis and stress response, and facilitates mitochondrial protein import via Mas1 and Mas2. Microbial Cell, 2017, 4, 342-361.	1.4	33
75	Leveraging machine learning essentiality predictions and chemogenomic interactions to identify antifungal targets. Nature Communications, 2021, 12, 6497.	5.8	33
76	Multilocus Genotyping Indicates that the Ability To Invade the Bloodstream Is Widespread among Candida albicans Isolates. Journal of Clinical Microbiology, 2001, 39, 1657-1660.	1.8	32
77	Functional Genomic Analysis of Candida albicans Adherence Reveals a Key Role for the Arp2/3 Complex in Cell Wall Remodelling and Biofilm Formation. PLoS Genetics, 2016, 12, e1006452.	1.5	32
78	Extensive functional redundancy in the regulation of <scp><i>C</i></scp><i>andida albicans</i> drug resistance and morphogenesis by lysine deacetylases <scp>H</scp>os2, <scp>H</scp>da1, <scp>R</scp>pd3 and <scp>R</scp>pd31. Molecular Microbiology, 2017, 103, 635-656.	1.2	31
79	The role of Candida albicans stress response pathways in antifungal tolerance and resistance. IScience, 2022, 25, 103953.	1.9	29
80	Predicting the emergence of resistance to antifungal drugs. FEMS Microbiology Letters, 2001, 204, 1-7.	0.7	28
81	Translation Inhibition by Rocaglates Activates a Species-Specific Cell Death Program in the Emerging Fungal Pathogen Candida auris. MBio, 2020, 11, .	1.8	27
82	Minimum Inhibitory Concentration (MIC) Assay for Antifungal Drugs. Bio-protocol, 2012, 2, .	0.2	27
83	Enhanced Efflux Pump Expression in <i>Candida</i> Mutants Results in Decreased Manogepix Susceptibility. Antimicrobial Agents and Chemotherapy, 2020, 64, .	1.4	26
84	Regulatory circuitry governing morphogenesis in<i>Saccharomyces cerevisiae</i>and<i>Candida albicans</i>. Cell Cycle, 2012, 11, 4294-4295.	1.3	23
85	Fungal-Selective Resorcylate Aminopyrazole Hsp90 Inhibitors: Optimization of Whole-Cell Anticryptococcal Activity and Insights into the Structural Origins of Cryptococcal Selectivity. Journal of Medicinal Chemistry, 2021, 64, 1139-1169.	2.9	23
86	Electron cryomicroscopy observation of acyl carrier protein translocation in type I fungal fatty acid synthase. Scientific Reports, 2019, 9, 12987.	1.6	22
87	A Systems Biology Approach Reveals the Role of a Novel Methyltransferase in Response to Chemical Stress and Lipid Homeostasis. PLoS Genetics, 2011, 7, e1002332.	1.5	21
88	Advances in fungal chemical genomics for the discovery of new antifungal agents. Annals of the New York Academy of Sciences, 2021, 1496, 5-22.	1.8	21
89	The Proteasome Governs Fungal Morphogenesis via Functional Connections with Hsp90 and cAMP-Protein Kinase A Signaling. MBio, 2020, 11, .	1.8	21
90	Targeting fungal membrane homeostasis with imidazopyrazoindoles impairs azole resistance and biofilm formation. Nature Communications, 2022, 13, .	5.8	21

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91	Uncovering cellular circuitry controlling temperature-dependent fungal morphogenesis. Virulence, 2012, 3, 400-404.	1.8	20
92	To Sense or Die: Mechanisms of Temperature Sensing in Fungal Pathogens. Current Fungal Infection Reports, 2014, 8, 185-191.	0.9	20
93	Regulation of the heat shock transcription factor Hsf1 in fungi: implications for temperature-dependent virulence traits. FEMS Yeast Research, 2018, 18, .	1.1	19
94	Environment-induced same-sex mating in the yeast Candida albicans through the Hsf1â€“Hsp90 pathway. PLoS Biology, 2019, 17, e2006966.	2.6	19
95	Functional connections between cell cycle and proteostasis in the regulation of Candida albicans morphogenesis. Cell Reports, 2021, 34, 108781.	2.9	19
96	Staurosporine Induces Filamentation in the Human Fungal Pathogen Candida albicans via Signaling through Cyr1 and Protein Kinase A. MSphere, 2017, 2, .	1.3	17
97	Functional divergence of a global regulatory complex governing fungal filamentation. PLoS Genetics, 2019, 15, e1007901.	1.5	17
98	Structure-guided approaches to targeting stress responses in human fungal pathogens. Journal of Biological Chemistry, 2020, 295, 14458-14472.	1.6	16
99	Rieske head domain dynamics and indazole-derivative inhibition of Candida albicans complex III. Structure, 2022, 30, 129-138.e4.	1.6	15
100	Functional Divergence of Hsp90 Genetic Interactions in Biofilm and Planktonic Cellular States. PLoS ONE, 2015, 10, e0137947.	1.1	13
101	Antifungal Drugs: The Current Armamentarium and Development of New Agents. , 0, , 903-922.		13
102	Bacterialâ€"fungal interactions and their impact on microbial pathogenesis. Molecular Ecology, 2023, 32, 2565-2581.	2.0	13
103	Oxadiazole-Containing Macrocyclic Peptides Potentiate Azole Activity against Pathogenic <i>Candida</i> Species. MSphere, 2020, 5, .	1.3	12
104	The macrophage-derived protein PTMA induces filamentation of the human fungal pathogen Candida albicans. Cell Reports, 2021, 36, 109584.	2.9	12
105	Genetic analysis of Hsp90 function in <i>Cryptococcus neoformans</i> highlights key roles in stress tolerance and virulence. Genetics, 2022, 220, .	1.2	12
106	Mitochondrial perturbation reduces susceptibility to xenobiotics through altered efflux in<i>Candida albicans</i>. Genetics, 2021, 219, .	1.2	11
107	Insights into the host-pathogen interaction: C. albicans manipulation of macrophage pyroptosis. Microbial Cell, 2018, 5, 566-568.	1.4	11
108	Antifungal drug resistance: Deciphering the mechanisms governing multidrug resistance in the fungal pathogen Candida glabrata. Current Biology, 2021, 31, R1520-R1523.	1.8	11

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109	Stress Adaptation. , 0, , 463-485.		9
110	Adaptive laboratory evolution in S. cerevisiae highlights role of transcription factors in fungal xenobiotic resistance. Communications Biology, 2022, 5, 128.	2.0	8
111	A novel calcineurin-independent activity of cyclosporin A in Saccharomyces cerevisiae. Molecular BioSystems, 2012, 8, 2575.	2.9	6
112	Candida albicans Is Resistant to Polyglutamine Aggregation and Toxicity. G3: Genes, Genomes, Genetics, 2017, 7, 95-108.	0.8	6
113	Antifungal Activity of Gepinacin Scaffold Glycosylphosphatidylinositol Anchor Biosynthesis Inhibitors with Improved Metabolic Stability. Antimicrobial Agents and Chemotherapy, 2020, 64, .	1.4	6
114	Inhibiting Protein Prenylation with Benzoxaboroles to Target Fungal Plant Pathogens. ACS Chemical Biology, 2020, 15, 1930-1941.	1.6	6
115	A functionally divergent intrinsically disordered region underlying the conservation of stochastic signaling. PLoS Genetics, 2021, 17, e1009629.	1.5	6
116	Editorial: Antifungal Pipeline: Build It Strong; Build It Better!. Frontiers in Cellular and Infection Microbiology, 2022, 12, 881272.	1.8	6
117	The Rise of Fungi: A Report on the CIFAR Program <i>Fungal Kingdom: Threats & Opportunities</i> Inaugural Meeting. G3: Genes, Genomes, Genetics, 2020, 10, 1837-1842.	0.8	4
118	The Canadian Fungal Research Network: current challenges and future opportunities. Canadian Journal of Microbiology, 2021, 67, 13-22.	0.8	4
119	Functional analysis of the Candida albicans kinome reveals Hrr25 as a regulator of antifungal susceptibility. IScience, 2022, 25, 104432.	1.9	4
120	Glycosylated Polyene Macrolides Kill Fungi via a Conserved Sterol Sponge Mechanism of Action. ACS Central Science, 2021, 7, 706-708.	5.3	3
121	High-Throughput Chemical Screen Identifies a 2,5-Disubstituted Pyridine as an Inhibitor of Candida albicans Erg11. MSphere, 2022, 7, e0007522.	1.3	3
122	Flow Cytometric Measurement of Efflux in <i>Candida</i> Species. Current Protocols in Microbiology, 2020, 59, e121.	6.5	2
123	Exploring boron applications in modern agriculture: A structure-activity relationship study of a novel series of multi-substitution benzoxaboroles for identification of potential fungicides. Bioorganic and Medicinal Chemistry Letters, 2021, 43, 128089.	1.0	2
124	Molecular analysis and essentiality of Aro1 shikimate biosynthesis multi-enzyme in <i>Candida albicans</i>. Life Science Alliance, 2022, 5, e202101358.	1.3	1
125	Inhibiting C-4 Methyl Sterol Oxidase with Novel Diazaborines to Target Fungal Plant Pathogens. ACS Chemical Biology, 2022, 17, 1343-1350.	1.6	1
126	Genomic Approaches to Antifungal Drug Target Identification and Validation. Annual Review of Microbiology, 2022, 76, .	2.9	1

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127	Microevolution of Antifungal Drug Resistance. , 2017, , 345-368.		0
128	Drugs from bugs in creatures of the sea. Science, 2020, 370, 906-907.	6.0	0
129	Showcasing Fungal Genetics & Genomics with the Genetics Society of America. Genetics, 2021, 217, .	1.2	0
130	Showcasing Fungal Genetics & Genomics with the Genetics Society of America. G3: Genes, Genomes, Genetics, 2021, 11, .	0.8	0
131	Fluorescence Polarizationâ€Based Measurement of Proteinâ€Ligand Interaction in Fungal Cell Lysates. Current Protocols, 2021, 1, e17.	1.3	0
132	Drug Combinations as a Strategy to Potentiate Existing Antifungal Agents. , 2015, , 91-114.		0
133	Proteinâ€“Protein Interaction Profiling in Candida albicans Revealed by Biochemical Purificationâ€“Mass Spectrometry (BP/MS). Methods in Molecular Biology, 2019, 2049, 203-211.	0.4	0
134	Interactions Between Intracellular Fungal Pathogens and Host Phagocytes. , 2022, , .		0
135	Exploring Space via Astromycology: A Report on the CIFAR Programs <i>Earth 4D</i> and <i>Fungal Kingdom</i> Inaugural Joint Meeting. Astrobiology, 2022, , .	1.5	0