

# Elizabeth Vierling

## List of Publications by Year in Descending Order

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The third column is the impact factor (IF) of the journal, and the fourth column is the number of citations of the article.

91 papers	13,673 citations	59 h-index	104 g-index
104 ext. papers	15,224 ext. citations	7 avg, IF	6.47 L-index

#	Paper	IF	Citations
91	Mitochondrial ATP synthase subunit d, a component of the peripheral stalk, is essential for growth and heat stress tolerance in <i>Arabidopsis thaliana</i> . <i>Plant Journal</i> , <b>2021</b> , 107, 713-726	6.9	3
90	Auxin efflux controls orderly nucellar degeneration and expansion of the female gametophyte in <i>Arabidopsis</i> . <i>New Phytologist</i> , <b>2021</b> , 230, 2261-2274	9.8	6
89	mTERF18 and ATAD3 are required for mitochondrial nucleoid structure and their disruption confers heat tolerance in <i>Arabidopsis thaliana</i> . <i>New Phytologist</i> , <b>2021</b> , 232, 2026-2042	9.8	3
88	Quantitative Proteome Profiling of a -Nitrosogluthathione Reductase (GSNOR) Null Mutant Reveals a New Class of Enzymes Involved in Nitric Oxide Homeostasis in Plants.. <i>Frontiers in Plant Science</i> , <b>2021</b> , 12, 787435	6.2	0
87	Plant small heat shock proteins - evolutionary and functional diversity. <i>New Phytologist</i> , <b>2020</b> , 227, 24-37	9.8	53
86	HSP101 Interacts with the Proteasome and Promotes the Clearance of Ubiquitylated Protein Aggregates. <i>Plant Physiology</i> , <b>2019</b> , 180, 1829-1847	6.6	38
85	Structural principles that enable oligomeric small heat-shock protein paralogs to evolve distinct functions. <i>Science</i> , <b>2018</b> , 359, 930-935	33.3	29
84	Structural and functional aspects of the interaction partners of the small heat-shock protein in <i>Synechocystis</i> . <i>Cell Stress and Chaperones</i> , <b>2018</b> , 23, 723-732	4	5
83	Direct Measurement of S-Nitrosothiols with an Orbitrap Fusion Mass Spectrometer: S-Nitrosogluthathione Reductase as a Model Protein. <i>Methods in Molecular Biology</i> , <b>2018</b> , 1747, 143-160	1.4	
82	Metabolic adaptation of wheat grain contributes to a stable filling rate under heat stress. <i>Journal of Experimental Botany</i> , <b>2018</b> , 69, 5531-5545	7	35
81	It takes a dimer to tango: Oligomeric small heat shock proteins dissociate to capture substrate. <i>Journal of Biological Chemistry</i> , <b>2018</b> , 293, 19511-19521	5.4	23
80	The growing world of small heat shock proteins: from structure to functions. <i>Cell Stress and Chaperones</i> , <b>2017</b> , 22, 601-611	4	101
79	Mutations in eIF5B Confer Thermosensitive and Pleiotropic Phenotypes via Translation Defects in. <i>Plant Cell</i> , <b>2017</b> , 29, 1952-1969	11.6	25
78	Assessing Plant Tolerance to Acute Heat Stress. <i>Bio-protocol</i> , <b>2017</b> , 7, e2405	0.9	3
77	Class I and II Small Heat Shock Proteins Together with HSP101 Protect Protein Translation Factors during Heat Stress. <i>Plant Physiology</i> , <b>2016</b> , 172, 1221-1236	6.6	64
76	S-Nitrosation of Conserved Cysteines Modulates Activity and Stability of S-Nitrosogluthathione Reductase (GSNOR). <i>Biochemistry</i> , <b>2016</b> , 55, 2452-64	3.2	78
75	Model Chaperones: Small Heat Shock Proteins from Plants. <i>Heat Shock Proteins</i> , <b>2015</b> , 119-153	0.2	15

74	A first line of stress defense: small heat shock proteins and their function in protein homeostasis. <i>Journal of Molecular Biology</i> , <b>2015</b> , 427, 1537-48	6.5	331
73	Replica exchange molecular dynamics simulations provide insight into substrate recognition by small heat shock proteins. <i>Biophysical Journal</i> , <b>2014</b> , 106, 2644-55	2.9	28
72	An unusual dimeric small heat shock protein provides insight into the mechanism of this class of chaperones. <i>Journal of Molecular Biology</i> , <b>2013</b> , 425, 1683-96	6.5	48
71	S-nitrosogluthathione reductases are low-copy number, cysteine-rich proteins in plants that control multiple developmental and defense responses in Arabidopsis. <i>Frontiers in Plant Science</i> , <b>2013</b> , 4, 430	6.2	90
70	Mutations in an Arabidopsis mitochondrial transcription termination factor-related protein enhance thermotolerance in the absence of the major molecular chaperone HSP101. <i>Plant Cell</i> , <b>2012</b> , 24, 3349-65	11.6	77
69	Small heat shock proteins and Ecristallins: dynamic proteins with flexible functions. <i>Trends in Biochemical Sciences</i> , <b>2012</b> , 37, 106-17	10.3	382
68	Dissecting heterogeneous molecular chaperone complexes using a mass spectrum deconvolution approach. <i>Chemistry and Biology</i> , <b>2012</b> , 19, 599-607		61
67	Quaternary dynamics and plasticity underlie small heat shock protein chaperone function. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2010</b> , 107, 2007-12	11.5	205
66	Mechanistic differences between two conserved classes of small heat shock proteins found in the plant cytosol. <i>Journal of Biological Chemistry</i> , <b>2010</b> , 285, 11489-97	5.4	70
65	The quaternary organization and dynamics of the molecular chaperone HSP26 are thermally regulated. <i>Chemistry and Biology</i> , <b>2010</b> , 17, 1008-17		41
64	Substrate binding site flexibility of the small heat shock protein molecular chaperones. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2009</b> , 106, 15604-9	11.5	192
63	Identification of substrate binding sites on a small heat shock protein reveals a unique mode of interaction between differentially aggregating substrates. <i>FASEB Journal</i> , <b>2009</b> , 23, 673.6	0.9	
62	Modulation of nitrosative stress by S-nitrosogluthathione reductase is critical for thermotolerance and plant growth in Arabidopsis. <i>Plant Cell</i> , <b>2008</b> , 20, 786-802	11.6	263
61	Insights into small heat shock protein and substrate structure during chaperone action derived from hydrogen/deuterium exchange and mass spectrometry. <i>Journal of Biological Chemistry</i> , <b>2008</b> , 283, 26634-42	5.4	59
60	Core genome responses involved in acclimation to high temperature. <i>Plant Physiology</i> , <b>2008</b> , 146, 748-61	6.6	329
59	A mutant small heat shock protein with increased thylakoid association provides an elevated resistance against UV-B damage in synechocystis 6803. <i>Journal of Biological Chemistry</i> , <b>2008</b> , 283, 22983-91	5.4	44
58	A cascade of transcription factor DREB2A and heat stress transcription factor HsfA3 regulates the heat stress response of Arabidopsis. <i>Plant Journal</i> , <b>2008</b> , 53, 264-74	6.9	296
57	The plant sHSP superfamily: five new members in Arabidopsis thaliana with unexpected properties. <i>Cell Stress and Chaperones</i> , <b>2008</b> , 13, 183-97	4	162

56	Real-time monitoring of protein complexes reveals their quaternary organization and dynamics. <i>Chemistry and Biology</i> , <b>2008</b> , 15, 246-53		64
55	Arabidopsis hot2 encodes an endochitinase-like protein that is essential for tolerance to heat, salt and drought stresses. <i>Plant Journal</i> , <b>2007</b> , 49, 184-93	6.9	71
54	Complexity of the heat stress response in plants. <i>Current Opinion in Plant Biology</i> , <b>2007</b> , 10, 310-6	9.9	845
53	A rhizosphere fungus enhances Arabidopsis thermotolerance through production of an HSP90 inhibitor. <i>Plant Physiology</i> , <b>2007</b> , 145, 174-82	6.6	119
52	A novel transcriptional cascade regulating expression of heat stress proteins during seed development of Arabidopsis. <i>Plant Cell</i> , <b>2007</b> , 19, 182-95	11.6	207
51	The Arabidopsis ClpB/Hsp100 family of proteins: chaperones for stress and chloroplast development. <i>Plant Journal</i> , <b>2007</b> , 49, 115-27	6.9	131
50	The N-terminal arm of small heat shock proteins is important for both chaperone activity and substrate specificity. <i>Journal of Biological Chemistry</i> , <b>2006</b> , 281, 39943-52	5.4	131
49	Heat stress phenotypes of Arabidopsis mutants implicate multiple signaling pathways in the acquisition of thermotolerance. <i>Plant Physiology</i> , <b>2005</b> , 138, 882-97	6.6	603
48	"Heat shock lipid" in cyanobacteria during heat/light-acclimation. <i>Archives of Biochemistry and Biophysics</i> , <b>2005</b> , 436, 346-54	4.1	56
47	Genetic analysis reveals domain interactions of Arabidopsis Hsp100/ClpB and cooperation with the small heat shock protein chaperone system. <i>Plant Cell</i> , <b>2005</b> , 17, 559-71	11.6	83
46	Evidence for an essential function of the N terminus of a small heat shock protein in vivo, independent of in vitro chaperone activity. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2005</b> , 102, 18896-901	11.5	65
45	Analysis of natural allelic variation of Arabidopsis seed germination and seed longevity traits between the accessions Landsberg erecta and Shikdara, using a new recombinant inbred line population. <i>Plant Physiology</i> , <b>2004</b> , 135, 432-43	6.6	182
44	Mutants in a small heat shock protein that affect the oligomeric state. Analysis and allele-specific suppression. <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 32674-83	5.4	49
43	Interactions between small heat shock protein subunits and substrate in small heat shock protein-substrate complexes. <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 1080-9	5.4	90
42	Evidence for an unfolding/threading mechanism for protein disaggregation by <i>Saccharomyces cerevisiae</i> Hsp104. <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 29139-46	5.4	191
41	The identity of proteins associated with a small heat shock protein during heat stress in vivo indicates that these chaperones protect a wide range of cellular functions. <i>Journal of Biological Chemistry</i> , <b>2004</b> , 279, 7566-75	5.4	132
40	Chaperone activity of cytosolic small heat shock proteins from wheat. <i>FEBS Journal</i> , <b>2004</b> , 271, 1426-36		84
39	Small heat shock proteins, ClpB and the DnaK system form a functional triade in reversing protein aggregation. <i>Molecular Microbiology</i> , <b>2003</b> , 50, 585-95	4.1	294

38	Solution structure and dynamics of a heat shock protein assembly probed by hydrogen exchange and mass spectrometry. <i>Biochemistry</i> , <b>2003</b> , 42, 10667-73	3.2	44
37	Arabidopsis hot mutants define multiple functions required for acclimation to high temperatures. <i>Plant Physiology</i> , <b>2003</b> , 132, 757-67	6.6	168
36	Arabidopsis UVH6, a homolog of human XPD and yeast RAD3 DNA repair genes, functions in DNA repair and is essential for plant growth. <i>Plant Physiology</i> , <b>2003</b> , 132, 1405-14	6.6	72
35	Refolding of substrates bound to small Hsps relies on a disaggregation reaction mediated most efficiently by ClpB/DnaK. <i>Journal of Biological Chemistry</i> , <b>2003</b> , 278, 31033-42	5.4	224
34	Small heat-shock proteins regulate membrane lipid polymorphism. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2002</b> , 99, 13504-9	11.5	261
33	Subunit exchange of multimeric protein complexes. Real-time monitoring of subunit exchange between small heat shock proteins by using electrospray mass spectrometry. <i>Journal of Biological Chemistry</i> , <b>2002</b> , 277, 38921-9	5.4	161
32	Changes in oligomerization are essential for the chaperone activity of a small heat shock protein in vivo and in vitro. <i>Journal of Biological Chemistry</i> , <b>2002</b> , 277, 46310-8	5.4	129
31	The expanding family of Arabidopsis thaliana small heat stress proteins and a new family of proteins containing alpha-crystallin domains (Acd proteins). <i>Cell Stress and Chaperones</i> , <b>2001</b> , 6, 225-37	4	258
30	Hsp101 is necessary for heat tolerance but dispensable for development and germination in the absence of stress. <i>Plant Journal</i> , <b>2001</b> , 27, 25-35	6.9	160
29	Crystal structure and assembly of a eukaryotic small heat shock protein. <i>Nature Structural Biology</i> , <b>2001</b> , 8, 1025-30		579
28	Exceptional Sensitivity of Rubisco Activase to Thermal Denaturation in Vitro and in Vivo. <i>Plant Physiology</i> , <b>2001</b> , 127, 1053-1064	6.6	193
27	Comprehensive expression profile analysis of the Arabidopsis Hsp70 gene family. <i>Plant Physiology</i> , <b>2001</b> , 126, 789-800	6.6	367
26	Heat shock protein 101 plays a crucial role in thermotolerance in Arabidopsis. <i>Plant Cell</i> , <b>2000</b> , 12, 479-92	11.6	534
25	The expression of small heat shock proteins in seeds responds to discrete developmental signals and suggests a general protective role in desiccation tolerance. <i>Plant Physiology</i> , <b>2000</b> , 122, 1099-108	6.6	222
24	A small heat shock protein cooperates with heat shock protein 70 systems to reactivate a heat-denatured protein. <i>Plant Physiology</i> , <b>2000</b> , 122, 189-98	6.6	376
23	Mutants of Arabidopsis thaliana defective in the acquisition of tolerance to high temperature stress. <i>Proceedings of the National Academy of Sciences of the United States of America</i> , <b>2000</b> , 97, 4392-7	11.5	332
22	Triticum aestivum cDNAs homologous to nuclear-encoded mitochondrion-localized small heat shock proteins. <i>Plant Science</i> , <b>1999</b> , 141, 93-103	5.3	7
21	The chloroplast small heat shock protein undergoes oxidation-dependent conformational changes and may protect plants from oxidative stress. <i>Cell Stress and Chaperones</i> , <b>1999</b> , 4, 129-38	4	107

20	The chloroplast small heat-shock protein oligomer is not phosphorylated and does not dissociate during heat stress in vivo. <i>Plant Physiology</i> , <b>1998</b> , 116, 1151-61	6.6	39
19	Expression, purification, and molecular chaperone activity of plant recombinant small heat shock proteins. <i>Methods in Enzymology</i> , <b>1998</b> , 290, 350-65	1.7	28
18	A small heat shock protein stably binds heat-denatured model substrates and can maintain a substrate in a folding-competent state. <i>EMBO Journal</i> , <b>1997</b> , 16, 659-71	13	594
17	The small heat shock proteins in plants are members of an ancient family of heat induced proteins. <i>Acta Physiologiae Plantarum</i> , <b>1997</b> , 19, 539-547	2.6	25
16	Evolution, structure and function of the small heat shock proteins in plants. <i>Journal of Experimental Botany</i> , <b>1996</b> , 47, 325-338	7	530
15	Molecular characterization of cDNAs encoding low-molecular-weight heat shock proteins of soybean. <i>Plant Molecular Biology</i> , <b>1996</b> , 30, 159-69	4.6	35
14	Molecular chaperones and protein folding in plants. <i>Plant Molecular Biology</i> , <b>1996</b> , 32, 191-222	4.6	457
13	Molecular chaperones and protein folding in plants <b>1996</b> , 191-222		22
12	Cytoplasmic HSP70 homologues of pea: differential expression in vegetative and embryonic organs. <i>Plant Molecular Biology</i> , <b>1995</b> , 27, 441-56	4.6	60
11	Conserved cell and organelle division. <i>Nature</i> , <b>1995</b> , 376, 473-4	50.4	259
10	Structure and in vitro molecular chaperone activity of cytosolic small heat shock proteins from pea. <i>Journal of Biological Chemistry</i> , <b>1995</b> , 270, 10432-8	5.4	243
9	Functional characterization of the higher plant chloroplast chaperonins. <i>Journal of Biological Chemistry</i> , <b>1995</b> , 270, 18158-64	5.4	79
8	Developmental control of small heat shock protein expression during pea seed maturation. <i>Plant Journal</i> , <b>1994</b> , 5, 93-102	6.9	103
7	An Arabidopsis Heat Shock Protein Complements a Thermotolerance Defect in Yeast. <i>Plant Cell</i> , <b>1994</b> , 6, 1899	11.6	15
6	Poly(A) tail length of a heat shock protein RNA is increased by severe heat stress, but intron splicing is unaffected. <i>Molecular Genetics and Genomics</i> , <b>1993</b> , 239, 323-33		56
5	Analysis of conserved domains identifies a unique structural feature of a chloroplast heat shock protein. <i>Molecular Genetics and Genomics</i> , <b>1991</b> , 226, 425-31		81
4	Expression of a Conserved Family of Cytoplasmic Low Molecular Weight Heat Shock Proteins during Heat Stress and Recovery. <i>Plant Physiology</i> , <b>1991</b> , 96, 1038-47	6.6	124
3	A cDNA clone from <i>Pisum sativum</i> encoding a low molecular weight heat shock protein. <i>Nucleic Acids Research</i> , <b>1990</b> , 18, 4274	20.1	23

2	Ribulose 1,5-Bisphosphate Carboxylase Synthesis during Heat Shock. <i>Plant Physiology</i> , <b>1985</b> , 78, 155-62	6.6	78
1	Plant Responses to High Temperature	100-144	36