Amy E Herr

List of Publications by Year
in descending order

120 papers	4,978 citations	117625 34 h-index	98798 67 g-index
129 all docs	129 docs citations	129 times ranked	5227 citing authors

#	Article	IF	Citations
1	Single-cell western blotting. Nature Methods, 2014, 11, 749-755.	19.0	372
2	Microfluidic immunoassays as rapid saliva-based clinical diagnostics. Proceedings of the National Academy of Sciences of the United States of America, 2007, 104, 5268-5273.	7.1	351
3	Protein immobilization techniques for microfluidic assays. Biomicrofluidics, 2013, 7, 41501.	2.4	310
4	Identification of Pathogen and Hostâ€Response Markers Correlated With Periodontal Disease. Journal of Periodontology, 2009, 80, 436-446.	3.4	302
5	Microfluidics: reframing biological enquiry. Nature Reviews Molecular Cell Biology, 2015, 16, 554-567.	37.0	258
6	Profiling protein expression in circulating tumour cells using microfluidic western blotting. Nature Communications, 2017, 8, 14622.	12.8	201
7	On-Chip Coupling of Isoelectric Focusing and Free Solution Electrophoresis for Multidimensional Separations. Analytical Chemistry, 2003, 75, 1180-1187.	6.5	193
8	Optimization of Turn Geometries for Microchip Electrophoresis. Analytical Chemistry, 2001, 73, 1350-1360.	6.5	192
9	Integrated Preconcentration SDSâ”PAGE of Proteins in Microchips Using Photopatterned Cross-Linked Polyacrylamide Gels. Analytical Chemistry, 2006, 78, 4976-4984.	6.5	159
10	Single cellâ€“resolution western blotting. Nature Protocols, 2016, 11, 1508-1530.	12.0	141
11	Microfluidic Western blotting. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 21450-21455.	7.1	127
12	Microfluidic integration for automated targeted proteomic assays. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 5972-5977.	7.1	102
13	Antibody microarrays for native toxin detection. Analytical Biochemistry, 2005, 339, 262-270.	2.4	99
14	Photopolymerized Cross-Linked Polyacrylamide Gels for On-Chip Protein Sizing. Analytical Chemistry, 2004, 76, 4727-4733.	6.5	92
15	Single-Cell Western Blotting after Whole-Cell Imaging to Assess Cancer Chemotherapeutic Response. Analytical Chemistry, 2014, 86, 10429-10436.	6.5	88
16	On-Chip Native Gel Electrophoresis-Based Immunoassays for Tetanus Antibody and Toxin. Analytical Chemistry, 2005, 77, 585-590.	6.5	84
17	Automated microfluidic protein immunoblotting. Nature Protocols, 2010, 5, 1844-1856.	12.0	83
18	Human Tear Protein Analysis Enabled by an Alkaline Microfluidic Homogeneous Immunoassay. Analytical Chemistry, 2011, 83, 8115-8122.	6.5	72

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19	Integrated Microfluidic Platform for Oral Diagnostics. Annals of the New York Academy of Sciences, 2007, 1098, 362-374.	3.8	69
20	Microfluidic Polyacrylamide Gel Electrophoresis with in Situ Immunoblotting for Native Protein Analysis. Analytical Chemistry, 2009, 81, 8177-8184.	6.5	64
21	Ultrashort Separation Length Homogeneous Electrophoretic Immunoassays Using On-Chip Discontinuous Polyacrylamide Gels. Analytical Chemistry, 2010, 82, 3343-3351.	6.5	59
22	Hydrogel Poreâ€Size Modulation for Enhanced Singleâ€Cell Western Blotting. Advanced Materials, 2016, 28, 327-334.	21.0	57
23	Functional Antibody Immobilization on 3-Dimensional Polymeric Surfaces Generated by Reactive Ion Etching. Langmuir, 2005, 21, 7621-7625.	3.5	50
24	Polyacrylamide Gel Photopatterning Enables Automated Protein Immunoblotting in a Two-Dimensional Microdevice. Journal of the American Chemical Society, 2010, 132, 2512-2513.	13.7	47
25	Microchip isoelectric focusing using a miniature scanning detection system. Electrophoresis, 2001, 22, 2291-2295.	2.4	46
26	Photopolymerized diffusion-defined polyacrylamide gradient gels for on-chip protein sizing. Lab on A Chip, 2008, 8, 1273.	6.0	46
27	Subcellular western blotting of single cells. Microsystems and Nanoengineering, 2017, 3, .	7.0	46
28	Multianalyte On-Chip Native Western Blotting. Analytical Chemistry, 2011, 83, 3581-3588.	6.5	45
29	On-chip technologies for multidimensional separations. Lab on A Chip, 2009, 9, 2524.	6.0	44
30	Post-collection processing of Schirmer strip-collected human tear fluid impacts protein content. Analyst, The, 2012, 137, 5088.	3.5	44
31	Photopatterned free-standing polyacrylamide gels for microfluidic protein electrophoresis. Lab on A Chip, 2013, 13, 2115.	6.0	39
32	Detection of Isoforms Differing by a Single Charge Unit in Individual Cells. Angewandte Chemie - International Edition, 2016, 55, 12431-12435.	13.8	39
33	Fully Integrated Microfluidic Platform Enabling Automated Phosphoprofiling of Macrophage Response. Analytical Chemistry, 2009, 81, 3261-3269.	6.5	35
34	Quantitative Enzyme Activity Determination with Zeptomole Sensitivity by Microfluidic Gradient-Gel Zymography. Analytical Chemistry, 2010, 82, 3803-3811.	6.5	34
35	Polymer sieving matrices in microanalytical electrophoresis. Analyst, The, 2014, 139, 5635-5654.	3.5	34
36	Electrostatic Protein Immobilization Using Charged Polyacrylamide Gels and Cationic Detergent Microfluidic Western Blotting. Analytical Chemistry, 2012, 84, 2533-2540.	6.5	32

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37	Membrane-Assisted Online Renaturation for Automated Microfluidic Lectin Blotting. Journal of the American Chemical Society, 2011, 133, 19610-19613.	13.7	31
38	In Situ Singleâ€Cell Western Blot on Adherent Cell Culture. Angewandte Chemie - International Edition, 2019, 58, 13929-13934.	13.8	31
39	Clinically relevant advances in onâ€chip affinityâ€based electrophoresis and electrochromatography. Electrophoresis, 2008, 29, 3306-3319.	2.4	29
40	A minimalist biosensor: Quantitation of cyclic di-GMP using the conformational change of a riboswitch aptamer. RNA Biology, 2015, 12, 1189-1197.	3.1	29
41	A lateral electrophoretic flow diagnostic assay. Lab on A Chip, 2015, 15, 1488-1496.	6.0	28
42	Microfluidic Multiplexing in Bioanalyses. Journal of the Association for Laboratory Automation, 2013, 18, 350-366.	2.8	27
43	Joule Heating-Induced Dispersion in Open Microfluidic Electrophoretic Cytometry. Analytical Chemistry, 2017, 89, 12787-12796.	6.5	27
44	Controlling Dispersion during Single-Cell Polyacrylamide-Gel Electrophoresis in Open Microfluidic Devices. Analytical Chemistry, 2018, 90, 13419-13426.	6.5	25
45	Homogeneous Immunosubtraction Integrated with Sample Preparation Enabled by a Microfluidic Format. Analytical Chemistry, 2011, 83, 2691-2698.	6.5	24
46	Microfluidic Screening of Electrophoretic Mobility Shifts Elucidates Riboswitch Binding Function. Journal of the American Chemical Society, 2013, 135, 3136-3143.	13.7	24
47	Bistable Isoelectric Point Photoswitching in Green Fluorescent Proteins Observed by Dynamic Immunoprobed Isoelectric Focusing. Journal of the American Chemical Society, 2012, 134, 17582-17591.	13.7	23
48	Microfluidic Western Blotting of Low-Molecular-Mass Proteins. Analytical Chemistry, 2014, 86, 10625-10632.	6.5	23
49	Linking invasive motility to protein expression in single tumor cells. Lab on A Chip, 2018, 18, 371-384.	6.0	23
50	Microchamber Integration Unifies Distinct Separation Modes for Two-Dimensional Electrophoresis. Analytical Chemistry, 2013, 85, 4538-4545.	6.5	22
51	Determination of equilibrium dissociation constants for recombinant antibodies by high-throughput affinity electrophoresis. Scientific Reports, 2016, 6, 39774.	3.3	22
52	Kinetic Analysis of Enzymes Immobilized in Porous Film Arrays. Analytical Chemistry, 2017, 89, 10311-10320.	6.5	22
53	Microfluidic electrophoretic mobility shift assays for quantitative biochemical analysis. Electrophoresis, 2014, 35, 2078-2090.	2.4	21
54	Effect of Polymer Hydration State on In-Gel Immunoassays. Analytical Chemistry, 2015, 87, 11030-11038.	6.5	20

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55	High-selectivity cytology via lab-on-a-disc western blotting of individual cells. Lab on A Chip, 2017, 17, 855-863.	6.0	18
56	In Situ Measurement of Thermodynamic Partitioning in Open Hydrogels. Analytical Chemistry, 2020, 92, 875-883.	6.5	17
57	Binding Kinetic Rates Measured via Electrophoretic Band Crossing in a Pseudohomogeneous Format. Analytical Chemistry, 2014, 86, 2601-2609.	6.5	16
58	High-Throughput Electrophoretic Mobility Shift Assays for Quantitative Analysis of Molecular Binding Reactions. Analytical Chemistry, 2014, 86, 10357-10364.	6.5	16
59	Assessing heterogeneity among single embryos and single blastomeres using open microfluidic design. Science Advances, 2020, 6, eaay1751.	10.3	16
60	New Views of Old Proteins: Clarifying the Enigmatic Proteome. Molecular and Cellular Proteomics, 2022, 21, 100254.	3.8	16
61	Use of Polyacrylamide Gel Moving Boundary Electrophoresis to Enable Low-Power Protein Analysis in a Compact Microdevice. Analytical Chemistry, 2012, 84, 8740-8747.	6.5	15
62	3D projection electrophoresis for single-cell immunoblotting. Nature Communications, 2020, 11, 6237.	12.8	15
63	Rapid Capture and Release of Nucleic Acids through a Reversible Photoâ€Cycloaddition Reaction in a Psoralenâ€Functionalized Hydrogel. Angewandte Chemie - International Edition, 2018, 57, 2357-2361.	13.8	14
64	Microfluidic integration of Western blotting is enabled by electrotransfer-assisted sodium dodecyl sulfate dilution. Analyst, The, 2013, 138, 158-163.	3.5	13
65	Fabrication of an Open Microfluidic Device for Immunoblotting. Analytical Chemistry, 2017, 89, 9643-9648.	6.5	12
66	Microparticle Delivery of Protein Markers for Singleâ€Cell Western Blotting from Microwells. Small, 2018, 14, e1802865.	10.0	12
67	Mouse-to-mouse variation in maturation heterogeneity of smooth muscle cells. Lab on A Chip, 2018, 18, 1875-1883.	6.0	12
68	Photopatterned materials in bioanalytical microfluidic technology. Journal of Micromechanics and Microengineering, 2011, 21, 054001.	2.6	11
69	Electrophoretic cytopathology resolves ERBB2 forms with single-cell resolution. Npj Precision Oncology, 2018, 2, 10.	5.4	11
70	Quantitative UV-C dose validation with photochromic indicators for informed N95 emergency decontamination. PLoS ONE, 2021, 16, e0243554.	2.5	11
71	Current Understanding of Ultraviolet-C Decontamination of N95 Filtering Facepiece Respirators. Applied Biosafety, 2021, 26, 90-102.	0.5	11
72	Single-Microchannel, Multistep Assay Reports Protein Size and Immunoaffinity. Analytical Chemistry, 2011, 83, 6573-6579.	6.5	10

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73	Microchamber Western Blotting Using Poly-<scp>l</scp>-Lysine Conjugated Polyacrylamide Gel for Blotting of Sodium Dodecyl Sulfate Coated Proteins. Analytical Chemistry, 2013, 85, 7753-7761.	6.5	10
74	Multiplexed in-gel microfluidic immunoassays: characterizing protein target loss during reprobing of benzophenone-modified hydrogels. Scientific Reports, 2019, 9, 15389.	3.3	10
75	Arrayed isoelectric focusing using photopatterned multiâ€domain hydrogels. Electrophoresis, 2018, 39, 1040-1047.	2.4	9
76	Separation-encoded microparticles for single-cell western blotting. Lab on A Chip, 2020, 20, 64-73.	6.0	9
77	Ferguson analysis of protein electromigration during single-cell electrophoresis in an open microfluidic device. Analyst, The, 2020, 145, 3732-3741.	3.5	9
78	Multiplexed Ion Beam Imaging Readout of Single-Cell Immunoblotting. Analytical Chemistry, 2021, 93, 8517-8525.	6.5	9
79	Microfluidic barcode assay for antibody-based confirmatory diagnostics. Lab on A Chip, 2013, 13, 3910.	6.0	8
80	Microfluidic Validation of Diagnostic Protein Markers for Spontaneous Cerebrospinal Fluid Rhinorrhea. Journal of Proteome Research, 2013, 12, 1254-1265.	3.7	8
81	Electrophoretic cytometry of adherent cells. Lab on A Chip, 2017, 17, 4312-4323.	6.0	8
82	Laterally Aggregated Polyacrylamide Gels for Immunoprobed Isoelectric Focusing. Analytical Chemistry, 2020, 92, 3180-3188.	6.5	8
83	Protein Post-Translational Modification Analyses Using On-Chip Immunoprobed Isoelectric Focusing. Analytical Chemistry, 2013, 85, 2882-2890.	6.5	7
84	Single-cell mobility shift electrophoresis reports protein localization to the cell membrane. Analyst, The, 2019, 144, 972-979.	3.5	7
85	Reversible Functionalization of Clickable Polyacrylamide Gels with Protein and Graft Copolymers. Advanced Functional Materials, 2020, 30, 2005010.	14.9	7
86	Detection of Isoforms Differing by a Single Charge Unit in Individual Cells. Angewandte Chemie, 2016, 128, 12619-12623.	2.0	6
87	Geometry-induced injection dispersion in single-cell protein electrophoresis. Analytica Chimica Acta, 2018, 1000, 214-222.	5.4	6
88	In Situ Singleâ€Cell Western Blot on Adherent Cell Culture. Angewandte Chemie, 2019, 131, 14067-14072.	2.0	6
89	Probe-target hybridization depends on spatial uniformity of initial concentration condition across large-format chips. Scientific Reports, 2020, 10, 8768.	3.3	6
90	Rapid electrotransfer probing for improved detection sensitivity in in-gel immunoassays. Analytical Methods, 2020, 12, 4638-4648.	2.7	6

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91	Measuring expression heterogeneity of single-cell cytoskeletal protein complexes. Nature Communications, 2021, 12, 4969.	12.8	6
92	Single-Cell Western Blotting. Methods in Molecular Biology, 2015, 1346, 1-9.	0.9	6
93	Disruptive by Design: A Perspective on Engineering in Analytical Chemistry. Analytical Chemistry, 2013, 85, 7622-7628.	6.5	5
94	Performance implications of chemical mobilization after microchannel <scp>IEF</scp>. Electrophoresis, 2014, 35, 1453-1460.	2.4	5
95	Multimodal detection of protein isoforms and nucleic acids from mouse pre-implantation embryos. Nature Protocols, 2021, 16, 1062-1088.	12.0	5
96	Single-cell immunoblotting resolves estrogen receptor-Î± isoforms in breast cancer. PLoS ONE, 2021, 16, e0254783.	2.5	5
97	Microfluidic homo- and hetero-geneous immunoassays: a tool to accelerate protein biomarker development. Bioanalysis, 2011, 3, 2161-2165.	1.5	4
98	Protein diffusion from microwells with contrasting hydrogel domains. APL Bioengineering, 2019, 3, 026101.	6.2	4
99	Comparison of photoactivatable crosslinkers for in-gel immunoassays. Analyst, The, 2021, 146, 6621-6630.	3.5	4
100	Mapping of UV-C dose and SARS-CoV-2 viral inactivation across N95 respirators during decontamination. Scientific Reports, 2021, 11, 20341.	3.3	4
101	Kinetic Rate Determination via Electrophoresis along a Varying Cross-Section Microchannel. Analytical Chemistry, 2016, 88, 3669-3676.	6.5	3
102	Rapid Capture and Release of Nucleic Acids through a Reversible Photoâ€Cycloaddition Reaction in a Psoralenâ€Functionalized Hydrogel. Angewandte Chemie, 2018, 130, 2381-2385.	2.0	3
103	Summit: Automated Analysis of Arrayed Single-Cell Gel Electrophoresis. SLAS Technology, 2021, 26, 637-649.	1.9	3
104	Electrotransfer of Immunoprobes through Thin-Layer Polyacrylamide Gels. Analytical Chemistry, 2022, 94, 2706-2712.	6.5	3
105	Rapid microfluidic prototyping of sophisticated protein analysis platforms using grayscale photopatterning. , 2014, , .		2
106	Barcodes for subcellular protein localization. Nature Biomedical Engineering, 2019, 3, 673-675.	22.5	2
107	Multimodal detection of protein isoforms and nucleic acids from low starting cell numbers. Lab on A Chip, 2021, 21, 2427-2436.	6.0	2
108	Programmed Cell-Death Mechanism Analysis Using Same-Cell, Multimode DNA and Proteoform Electrophoresis. ACS Measurement Science Au, 2021, 1, 139-146.	4.4	2

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109	Segmentationâ€based analysis of singleâ€cell immunoblots. Electrophoresis, 2021, 42, 2070-2080.	2.4	2
110	Multiplexed analysis of inflammation biomarkers using spectrally-encoded on-chip electrophoresis. , 2009, , .		1
111	Photo-patterned free-standing hydrogel microarrays for massively parallel protein analysis. , 2015, , .		1
112	Next wave advances in single-cell analyses. Analyst, The, 2019, 144, 735-737.	3.5	1
113	Chip-Based Immunoassays. Methods in Molecular Biology, 2013, 919, 233-248.	0.9	1
114	The biomarker pipeline: Novel microfluidic instrumentation for advancing proteomic discovery to clinical diagnostics. , 2007, , .		0
115	Towards Next-Generation Proteomic Assays: Functional Materials as Sieving Matrices and Binding Scaffolds. Materials Research Society Symposia Proceedings, 2011, 1415, 7.	0.1	0
116	Next-generation confirmatory disease diagnostics. , 2014, , .		0
117	Optical Attenuators Extend Dynamic Range but Alter Angular Response of Planar Ultravioletâ€Dosimeters. Photochemistry and Photobiology, 2021, , .	2.5	0
118	Something Old and Something New: The Time Is Right for Geriatric Engineering Programs. Journal of the American Geriatrics Society, 2021, 69, 613-615.	2.6	0
119	Nanosieving for rapid, solutionâ€phase immunoassays. FASEB Journal, 2008, 22, 564-564.	0.5	0
120	In-gel fluorescence detection by DNA polymerase elongation. APL Bioengineering, 2020, 4, 046104.	6.2	0