Peter N Devreotes

List of Publications by Year
in descending order

74 papers	8,898 citations	94433 37 h-index	95266 68 g-index
80 all docs	80 docs citations	80 times ranked	6372 citing authors

#	Article	IF	Citations
1	Cortical waves mediate the cellular response to electric fields. ELife, 2022, 11, .	6.0	9
2	Reverse fountain flow of phosphatidylinositolâ€3,4â€bisphosphate polarizes migrating cells. EMBO Journal, 2021, 40, e105094.	7.8	7
3	Hedgehog signaling and Tre1 regulate actin dynamics through PI(4,5)P2 to direct migration of Drosophila embryonic germ cells. Cell Reports, 2021, 34, 108799.	6.4	7
4	Electric signals counterbalanced posterior vs anterior PTEN signaling in directed migration of Dictyostelium. Cell and Bioscience, 2021, 11, 111.	4.8	2
5	Three-dimensional stochastic simulation of chemoattractant-mediated excitability in cells. PLoS Computational Biology, 2021, 17, e1008803.	3.2	7
6	Using Live-Cell Imaging and Synthetic Biology to Probe Directed Migration in Dictyostelium. Frontiers in Cell and Developmental Biology, 2021, 9, 740205.	3.7	9
7	Coupling traction force patterns and actomyosin wave dynamics reveals mechanics of cell motion. Molecular Systems Biology, 2021, 17, e10505.	7.2	10
8	Excitable networks controlling cell migration during development and disease. Seminars in Cell and Developmental Biology, 2020, 100, 133-142.	5.0	33
9	Traveling and standing waves mediate pattern formation in cellular protrusions. Science Advances, 2020, 6, eaay7682.	10.3	24
10	An Excitable Ras/PI3K/ERK Signaling Network Controls Migration and Oncogenic Transformation in Epithelial Cells. Developmental Cell, 2020, 54, 608-623.e5.	7.0	62
11	Statin-induced GGPP depletion blocks macropinocytosis and starves cells with oncogenic defects. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 4158-4168.	7.1	39
12	Moving toward molecular mechanisms for chemotaxis in eukaryotic cells. Molecular Biology of the Cell, 2019, 30, 2873-2877.	2.1	1
13	Cell migration directionality and speed are independently regulated by RasG and GÎ² in<i>Dictyostelium</i>cells in electrotaxis. Biology Open, 2019, 8, .	1.2	11
14	Wave patterns organize cellular protrusions and control cortical dynamics. Molecular Systems Biology, 2019, 15, e8585.	7.2	70
15	The excitable signal transduction networks: movers and shapers of eukaryotic cell migration. International Journal of Developmental Biology, 2019, 63, 407-416.	0.6	39
16	A minimal computational model for three-dimensional cell migration. Journal of the Royal Society Interface, 2019, 16, 20190619.	3.4	23
17	Pitavastatin Selectively Kills PTEN Knock Out Cells and Cancer Organoids in Mouse Model via the Mevalonate Pathway. FASEB Journal, 2019, 33, 782.14.	0.5	0
18	Coordination of Receptor Tyrosine Kinase Signaling and Interfacial Tension Dynamics Drives Radial Intercalation and Tube Elongation. Developmental Cell, 2018, 45, 67-82.e6.	7.0	59

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19	Insight from the maximal activation of the signal transduction excitable network in <i>Dictyostelium discoideum</i>. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E3722-E3730.	7.1	16
20	Chemoattractant receptors activate, recruit and capture G proteins for wide range chemotaxis. Biochemical and Biophysical Research Communications, 2018, 507, 304-310.	2.1	14
21	Mutually inhibitory Ras-PI(3,4)P ₂ feedback loops mediate cell migration. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E9125-E9134.	7.1	50
22	Altering the threshold of an excitable signal transduction network changes cell migratory modes. Nature Cell Biology, 2017, 19, 329-340.	10.3	121
23	Shear force-based genetic screen reveals negative regulators of cell adhesion and protrusive activity. Proceedings of the National Academy of Sciences of the United States of America, 2017, 114, E7727-E7736.	7.1	19
24	Excitable Signal Transduction Networks in Directed Cell Migration. Annual Review of Cell and Developmental Biology, 2017, 33, 103-125.	9.4	143
25	Assessment of Dictyostelium discoideum Response to Acute Mechanical Stimulation. Journal of Visualized Experiments, 2017, , .	0.3	1
26	NKCC1 Regulates Migration Ability of Glioblastoma Cells by Modulation of Actin Dynamics and Interacting with Cofilin. EBioMedicine, 2017, 21, 94-103.	6.1	58
27	Chemical and mechanical stimuli act on common signal transduction and cytoskeletal networks. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E7500-E7509.	7.1	55
28	GÎ² Regulates Coupling between Actin Oscillators for Cell Polarity and Directional Migration. PLoS Biology, 2016, 14, e1002381.	5.6	28
29	Opening the conformation is a master switch for the dual localization and phosphatase activity of PTEN. Scientific Reports, 2015, 5, 12600.	3.3	18
30	Engineering PTEN function: Membrane association and activity. Methods, 2015, 77-78, 119-124.	3.8	9
31	A large-scale screen reveals genes that mediate electrotaxis in <i>Dictyostelium discoideum</i>. Science Signaling, 2015, 8, ra50.	3.6	39
32	Signaling Networks that Regulate Cell Migration. Cold Spring Harbor Perspectives in Biology, 2015, 7, a005959.	5.5	256
33	Novel protein Callipygian defines the back of migrating cells. Proceedings of the National Academy of Sciences of the United States of America, 2015, 112, E3845-54.	7.1	13
34	The GATA transcription factor GtaC regulates early developmental gene expression dynamics in Dictyostelium. Nature Communications, 2015, 6, 7551.	12.8	20
35	A Unified Nomenclature and Amino Acid Numbering for Human PTEN. Science Signaling, 2014, 7, pe15.	3.6	50
36	3D arrays for high throughput assay of cell migration and electrotaxis. Cell Biology International, 2014, 38, 987-987.	3.0	1

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37	The Directional Response of Chemotactic Cells Depends on a Balance between Cytoskeletal Architecture and the External Gradient. Cell Reports, 2014, 9, 1110-1121.	6.4	57
38	Evolutionarily conserved coupling of adaptive and excitable networks mediates eukaryotic chemotaxis. Nature Communications, 2014, 5, 5175.	12.8	78
39	Moving towards a paradigm: common mechanisms of chemotactic signaling in Dictyostelium and mammalian leukocytes. Cellular and Molecular Life Sciences, 2014, 71, 3711-3747.	5.4	180
40	An excitable signal integrator couples to an idling cytoskeletal oscillator to drive cell migration. Nature Cell Biology, 2013, 15, 1307-1316.	10.3	194
41	Interaction of Motility, Directional Sensing, and Polarity Modules Recreates the Behaviors of Chemotaxing Cells. PLoS Computational Biology, 2013, 9, e1003122.	3.2	94
42	Gâ€protein signaling and adaptation in chemotaxis. FASEB Journal, 2011, 25, .	0.5	0
43	KrsB: A Novel Regulator of D. discoideum Development, Adhesion and Chemotaxis. FASEB Journal, 2011, 25, 930.2.	0.5	0
44	Identification of a novel protein at the lagging edge of migrating cells. FASEB Journal, 2011, 25, 930.13.	0.5	0
45	Eukaryotic Chemotaxis: A Network of Signaling Pathways Controls Motility, Directional Sensing, and Polarity. Annual Review of Biophysics, 2010, 39, 265-289.	10.0	435
46	Cells navigate with a local-excitation, global-inhibition-biased excitable network. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 17079-17086.	7.1	249
47	Navigating through models of chemotaxis. Current Opinion in Cell Biology, 2008, 20, 35-40.	5.4	249
48	PIP3-Independent Activation of TorC2 and PKB at the Cell's Leading Edge Mediates Chemotaxis. Current Biology, 2008, 18, 1034-1043.	3.9	163
49	G proteinâ€“independent Ras/PI3K/F-actin circuit regulates basic cell motility. Journal of Cell Biology, 2007, 178, 185-191.	5.2	208
50	2P201 Dynamic regulation of PI(3,4,5)P_3 phosphatase activity of PTEN on membranes revealed by single-molecule imaging(Cell biological problems-adhesion, motility, cytoskeleton, signaling, and) Tj ETQq0 0 0 rgBT /Overlock 10 Tf 50 2	0.0	0
51	Dictyostelium RacH Regulates Endocytic Vesicular Trafficking and is Required for Localization of Vacuolin. Traffic, 2006, 7, 1194-1212.	2.7	33
52	Electrical signals control wound healing through phosphatidylinositol-3-OH kinase-Î³ and PTEN. Nature, 2006, 442, 457-460.	27.8	880
53	Mechanisms of Eukaryotic Chemotaxis. , 2005, , 33-45.		0
54	Chemoattractant-induced phosphatidylinositol 3,4,5-trisphosphate accumulation is spatially amplified and adapts, independent of the actin cytoskeleton. Proceedings of the National Academy of Sciences of the United States of America, 2004, 101, 8951-8956.	7.1	232

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55	Two Complementary, Local Excitation, Global Inhibition Mechanisms Acting in Parallel Can Explain the Chemoattractant-Induced Regulation of PI(3,4,5)P3 Response in Dictyostelium Cells. Biophysical Journal, 2004, 87, 3764-3774.	0.5	144
56	Inositol Pyrophosphates Mediate Chemotaxis in Dictyostelium via Pleckstrin Homology Domain-PtdIns(3,4,5)P3 Interactions. Cell, 2003, 114, 559-572.	28.9	188
57	Two Phases of Actin Polymerization Display Different Dependencies on PI(3,4,5)P3 Accumulation and Have Unique Roles during Chemotaxis. Molecular Biology of the Cell, 2003, 14, 5028-5037.	2.1	154
58	Eukaryotic Chemotaxis: Distinctions between Directional Sensing and Polarization. Journal of Biological Chemistry, 2003, 278, 20445-20448.	3.4	396
59	Genetic analysis of the role of G proteinâ€“coupled receptor signaling in electrotaxis. Journal of Cell Biology, 2002, 157, 921-928.	5.2	60
60	Tumor Suppressor PTEN Mediates Sensing of Chemoattractant Gradients. Cell, 2002, 109, 599-610.	28.9	638
61	Receptor-Mediated Activation of Heterotrimeric G-Proteins in Living Cells. Science, 2001, 291, 2408-2411.	12.6	442
62	Single-Molecule Analysis of Chemotactic Signaling in Dictyostelium Cells. Science, 2001, 294, 864-867.	12.6	316
63	Tortoise, a Novel Mitochondrial Protein, Is Required for Directional Responses of Dictyostelium in Chemotactic Gradients. Journal of Cell Biology, 2001, 152, 621-632.	5.2	44
64	cAMP receptor affinity controls wave dynamics, geometry and morphogenesis in<i>Dictyostelium</i>. Journal of Cell Science, 2001, 114, 2513-2523.	2.0	59
65	Localization of the G Protein Complex in Living Cells During Chemotaxis. Science, 2000, 287, 1034-1036.	12.6	282
66	A Cell's Sense of Direction. Science, 1999, 284, 765-770.	12.6	837
67	G Protein Signaling Events Are Activated at the Leading Edge of Chemotactic Cells. Cell, 1998, 95, 81-91.	28.9	586
68	Occupancy of the Dictyostelium cAMP Receptor, cAR1, Induces a Reduction in Affinity Which Depends upon COOH-terminal Serine Residues. Journal of Biological Chemistry, 1995, 270, 4418-4423.	3.4	28
69	Agonist-induced Loss of Ligand Binding Is Correlated with Phosphorylation of cAR1, a G Protein-coupled Chemoattractant Receptor from Dictyostelium. Journal of Biological Chemistry, 1995, 270, 8667-8672.	3.4	38
70	Molecular insights into eukaryotic chemotaxis. FASEB Journal, 1991, 5, 3078-3085.	0.5	101
71	Multiple genes for cell surface cAMP receptors inDictyostelium discoideum. Genesis, 1991, 12, 6-13.	2.1	85
72	Structure and expression of the cAMP cell-surface receptor. Genesis, 1988, 9, 227-235.	2.1	16

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73	Phenotypic changes induced by a mutated ras gene during the development of Dictyostelium transformants. Nature, 1986, 323, 340-343.	27.8	105
74	Cell-Cell Interactions in the Development ofDictyostelium. American Zoologist, 1986, 26, 549-552.	0.7	1