Michael P Sheetz

List of Publications by Year
in descending order

50 papers	11,673 citations	126907 33 h-index	206112 48 g-index
58 all docs	58 docs citations	58 times ranked	10518 citing authors

#	Article	IF	Citations
1	Local force and geometry sensing regulate cell functions. Nature Reviews Molecular Cell Biology, 2006, 7, 265-275.	37.0	2,034
2	Stretching Single Talin Rod Molecules Activates Vinculin Binding. Science, 2009, 323, 638-641.	12.6	1,297
3	Extracellular Matrix Rigidity Causes Strengthening of Integrinâ€"Cytoskeleton Linkages. Cell, 1997, 88, 39-48.	28.9	1,166
4	Force Sensing by Mechanical Extension of the Src Family Kinase Substrate p130Cas. Cell, 2006, 127, 1015-1026.	28.9	845
5	The relationship between force and focal complex development. Journal of Cell Biology, 2002, 159, 695-705.	5.2	812
6	Appreciating force and shape â€" the rise of mechanotransduction in cell biology. Nature Reviews Molecular Cell Biology, 2014, 15, 825-833.	37.0	634
7	Periodic Lamellipodial Contractions Correlate with Rearward Actin Waves. Cell, 2004, 116, 431-443.	28.9	536
8	Two-piconewton slip bond between fibronectin and the cytoskeleton depends on talin. Nature, 2003, 424, 334-337.	27.8	408
9	Talin depletion reveals independence of initial cell spreading from integrin activation and traction. Nature Cell Biology, 2008, 10, 1062-1068.	10.3	396
10	Stretchy Proteins on Stretchy Substrates: The Important Elements of Integrin-Mediated Rigidity Sensing. Developmental Cell, 2010, 19, 194-206.	7.0	364
11	The mechanical response of talin. Nature Communications, 2016, 7, 11966.	12.8	304
12	Cell fate regulation by coupling mechanical cycles to biochemical signaling pathways. Current Opinion in Cell Biology, 2009, 21, 38-46.	5.4	248
13	Integrin-dependent force transmission to the extracellular matrix by Î±-actinin triggers adhesion maturation. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, E1361-70.	7.1	240
14	Cells test substrate rigidity by local contractions on submicrometer pillars. Proceedings of the National Academy of Sciences of the United States of America, 2012, 109, 5328-5333.	7.1	227
15	Rigidity Sensing at the Leading Edge through Î±vÎ²3 Integrins and RPTPÎ±. Biophysical Journal, 2006, 90, 1804-1809.	0.5	210
16	Steps in Mechanotransduction Pathways that Control Cell Morphology. Annual Review of Physiology, 2019, 81, 585-605.	13.1	169
17	Tropomyosin controls sarcomere-like contractions for rigidity sensing and suppressing growth on softÂ matrices. Nature Cell Biology, 2016, 18, 33-42.	10.3	168
18	Nascent Integrin Adhesions Form on All Matrix Rigidities after Integrin Activation. Developmental Cell, 2015, 35, 614-621.	7.0	142

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19	Cell response to substrate rigidity is regulated by active and passive cytoskeletal stress. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 12817-12825.	7.1	122
20	FHOD1 Is Needed for Directed Forces and Adhesion Maturation during Cell Spreading and Migration. Developmental Cell, 2013, 27, 545-559.	7.0	107
21	Cardiomyocytes Sense Matrix Rigidity through a Combination of Muscle and Non-muscle Myosin Contractions. Developmental Cell, 2018, 44, 326-336.e3.	7.0	101
22	Integrin nanoclusters can bridge thin matrix fibres to form cellâ€“matrix adhesions. Nature Materials, 2019, 18, 1366-1375.	27.5	95
23	Talin Dependent Mechanosensitivity of Cell Focal Adhesions. Cellular and Molecular Bioengineering, 2015, 8, 151-159.	2.1	84
24	mDia1 senses both force and torque during F-actin filament polymerization. Nature Communications, 2017, 8, 1650.	12.8	83
25	Stopping transformed cancer cell growth by rigidity sensing. Nature Materials, 2020, 19, 239-250.	27.5	81
26	Mechanosensing Controlled Directly by Tyrosine Kinases. Nano Letters, 2016, 16, 5951-5961.	9.1	74
27	Î±-Actinin links extracellular matrix rigidity-sensing contractile units with periodic cell-edge retractions. Molecular Biology of the Cell, 2016, 27, 3471-3479.	2.1	68
28	EGFR and HER2 activate rigidity sensing only on rigid matrices. Nature Materials, 2017, 16, 775-781.	27.5	68
29	DNA damage causes rapid accumulation of phosphoinositides for ATRÂsignaling. Nature Communications, 2017, 8, 2118.	12.8	66
30	EGFR family and Src family kinase interactions: mechanics matters?. Current Opinion in Cell Biology, 2018, 51, 97-102.	5.4	64
31	Matrix mechanics controls FHL2 movement to the nucleus to activate p21 expression. Proceedings of the National Academy of Sciences of the United States of America, 2016, 113, E6813-E6822.	7.1	57
32	Mechanical confinement triggers glioma linear migration dependent on formin FHOD3. Molecular Biology of the Cell, 2016, 27, 1246-1261.	2.1	51
33	Force-Induced Calpain Cleavage of Talin Is Critical for Growth, Adhesion Development, and Rigidity Sensing. Nano Letters, 2017, 17, 7242-7251.	9.1	44
34	Rapid recruitment of p53 to DNA damage sites directs DNA repair choice and integrity. Proceedings of the National Academy of Sciences of the United States of America, 2022, 119, e2113233119.	7.1	39
35	Fâ€actin waves, actin cortex disassembly and focal exocytosis driven by actinâ€phosphoinositide positive feedback. Cytoskeleton, 2016, 73, 180-196.	2.0	32
36	Large and reversible myosin-dependent forces in rigidity sensing. Nature Physics, 2019, 15, 689-695.	16.7	31

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37	A Tale of Two States: Normal and Transformed, With and Without Rigidity Sensing. Annual Review of Cell and Developmental Biology, 2019, 35, 169-190.	9.4	28
38	Selective killing of transformed cells by mechanical stretch. Biomaterials, 2021, 275, 120866.	11.4	25
39	Nuclear transport of paxillin depends on focal adhesion dynamics and FAT domains. Journal of Cell Science, 2016, 129, 1981-8.	2.0	22
40	Enhanced tumor cell killing by ultrasound after microtubule depolymerization. Bioengineering and Translational Medicine, 2021, 6, e10233.	7.1	16
41	Application of piconewton forces to individual filopodia reveals mechanosensory role of L-type Ca2+ channels. Biomaterials, 2022, 284, 121477.	11.4	15
42	Adaptive mechanoproperties mediated by the formin FMN1 characterize glioblastoma fitness for invasion. Developmental Cell, 2021, 56, 2841-2855.e8.	7.0	12
43	Local contractions regulate E-cadherin rigidity sensing. Science Advances, 2022, 8, eabk0387.	10.3	11
44	Mechanobiology in cardiac mechanics. Biophysical Reviews, 2021, 13, 583-585.	3.2	7
45	Tumor Suppressor DAPK1 Catalyzes Adhesion Assembly on Rigid but Anoikis on Soft Matrices. Frontiers in Cell and Developmental Biology, 0, 10, .	3.7	7
46	When PIP2 Meets p53: Nuclear Phosphoinositide Signaling in the DNA Damage Response. Frontiers in Cell and Developmental Biology, 2022, 10, .	3.7	6
47	Micro-stepping Extended Focus reduces photobleaching and preserves structured illumination super-resolution features. Journal of Cell Science, 2020, 133, .	2.0	4
48	Competition for shared downstream signaling molecules establishes indirect negative feedback between EGFR and EphA2. Biophysical Journal, 2022, 121, 1897-1908.	0.5	3
49	Î±-Catenin links integrin adhesions to F-actin to regulate ECM mechanosensing and rigidity dependence. Journal of Cell Biology, 2022, 221, .	5.2	2
50	EML webinar overview: Mechanical stresses kill tumor cells. Extreme Mechanics Letters, 2021, 49, 101461.	4.1	0