Pere Roca-Cusachs

List of Publications by Year
in descending order

58 papers	10,623 citations	81900 39 h-index	144013 57 g-index
74 all docs	74 docs citations	74 times ranked	12014 citing authors

#	Article	IF	Citations
1	Stretching Single Talin Rod Molecules Activates Vinculin Binding. Science, 2009, 323, 638-641.	12.6	1,297
2	Force Triggers YAP Nuclear Entry by Regulating Transport across Nuclear Pores. Cell, 2017, 171, 1397-1410.e14.	28.9	927
3	Integrins as biomechanical sensors ofÂthe microenvironment. Nature Reviews Molecular Cell Biology, 2019, 20, 457-473.	37.0	768
4	Mechanical regulation of a molecular clutch defines force transmission and transduction in response to matrix rigidity. Nature Cell Biology, 2016, 18, 540-548.	10.3	582
5	A mechanically active heterotypic E-cadherin/N-cadherin adhesion enables fibroblasts toÂdrive cancer cell invasion. Nature Cell Biology, 2017, 19, 224-237.	10.3	567
6	Collective cell durotaxis emerges from long-range intercellular force transmission. Science, 2016, 353, 1157-1161.	12.6	484
7	Quantifying forces in cell biology. Nature Cell Biology, 2017, 19, 742-751.	10.3	376
8	Clustering of Î± ₅ Î² ₁ integrins determines adhesion strength whereas Î± _v Î² ₃ and talin enable mechanotransduction. Proceedings of the National Academy of Sciences of the United States of America, 2009, 106, 16245-16250.	7.1	373
9	Stretchy Proteins on Stretchy Substrates: The Important Elements of Integrin-Mediated Rigidity Sensing. Developmental Cell, 2010, 19, 194-206.	7.0	364
10	Temporary increase in plasma membrane tension coordinates the activation of exocytosis and contraction during cell spreading. Proceedings of the National Academy of Sciences of the United States of America, 2011, 108, 14467-14472.	7.1	329
11	Probing mechanical properties of living cells by atomic force microscopy with blunted pyramidal cantilever tips. Physical Review E, 2005, 72, 021914.	2.1	316
12	Rigidity sensing and adaptation through regulation of integrin types. Nature Materials, 2014, 13, 631-637.	27.5	304
13	Control of cellâ€"cell forces and collective cell dynamics by the intercellular adhesome. Nature Cell Biology, 2015, 17, 409-420.	10.3	275
14	Force loading explains spatial sensing of ligands by cells. Nature, 2017, 552, 219-224.	27.8	244
15	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
16	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
17	Control of Mechanotransduction by Molecular Clutch Dynamics. Trends in Cell Biology, 2018, 28, 356-367.	7.9	218
18	Finding the weakest link â€" exploring integrin-mediated mechanical molecular pathways. Journal of Cell Science, 2012, 125, 3025-38.	2.0	215

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19	Fine tuning the extracellular environment accelerates the derivation of kidney organoids from human pluripotent stem cells. Nature Materials, 2019, 18, 397-405.	27.5	201
20	Micropatterning of Single Endothelial Cell Shape Reveals a Tight Coupling between Nuclear Volume in G1 and Proliferation. Biophysical Journal, 2008, 94, 4984-4995.	0.5	168
21	Tropomyosin controls sarcomere-like contractions for rigidity sensing and suppressing growth on softÂmatrices. Nature Cell Biology, 2016, 18, 33-42.	10.3	168
22	Mechanical guidance of cell migration: lessons from chemotaxis. Current Opinion in Cell Biology, 2013, 25, 543-549.	5.4	136
23	Regulation of cell cycle progression by cellâ€“cell and cellâ€“matrix forces. Nature Cell Biology, 2018, 20, 646-654.	10.3	136
24	The plasma membrane as a mechanochemical transducer. Philosophical Transactions of the Royal Society B: Biological Sciences, 2019, 374, 20180221.	4.0	134
25	Stability of Microfabricated High Aspect Ratio Structures in Poly(dimethylsiloxane). Langmuir, 2005, 21, 5542-5548.	3.5	132
26	Molecular clutch drives cell response to surface viscosity. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, 1192-1197.	7.1	115
27	Mechanical compartmentalization of the intestinal organoid enables crypt folding and collective cell migration. Nature Cell Biology, 2021, 23, 745-757.	10.3	112
28	Mechanochemical feedback control of dynamin independent endocytosis modulates membrane tension in adherent cells. Nature Communications, 2018, 9, 4217.	12.8	106
29	Membrane tension controls adhesion positioning at the leading edge of cells. Journal of Cell Biology, 2017, 216, 2959-2977.	5.2	101
30	Physical principles of membrane remodelling during cell mechanoadaptation. Nature Communications, 2015, 6, 7292.	12.8	91
31	Rheology of Passive and Adhesion-Activated Neutrophils Probed by Atomic Force Microscopy. Biophysical Journal, 2006, 91, 3508-3518.	0.5	85
32	Mechanosensing at integrin-mediated cellâ€“matrix adhesions: from molecular to integrated mechanisms. Current Opinion in Cell Biology, 2018, 50, 20-26.	5.4	75
33	Mapping Cell-Matrix Stresses during Stretch Reveals Inelastic Reorganization of the Cytoskeleton. Biophysical Journal, 2008, 95, 464-471.	0.5	70
34	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
35	Long-lived force patterns and deformation waves at repulsive epithelial boundaries. Nature Materials, 2017, 16, 1029-1037.	27.5	65
36	Mechanical force application to the nucleus regulates nucleocytoplasmic transport. Nature Cell Biology, 2022, 24, 896-905.	10.3	61

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37	Filamin depletion blocks endoplasmic spreading and destabilizes force-bearing adhesions. Molecular Biology of the Cell, 2011, 22, 1263-1273.	2.1	59
38	The force loading rate drives cell mechanosensing through both reinforcement and cytoskeletal softening. Nature Communications, 2021, 12, 4229.	12.8	48
39	Thrombin-induced contraction in alveolar epithelial cells probed by traction microscopy. Journal of Applied Physiology, 2006, 101, 512-520.	2.5	41
40	Cell dynamic adhesion and elastic properties probed with cylindrical atomic force microscopy cantilever tips. Journal of Molecular Recognition, 2007, 20, 459-466.	2.1	40
41	Traction forces at the cytokinetic ring regulate cell division and polyploidy in the migrating zebrafish epicardium. Nature Materials, 2019, 18, 1015-1023.	27.5	40
42	The mechanical stability of proteins regulates their translocation rate into the cell nucleus. Nature Physics, 2019, 15, 973-981.	16.7	36
43	Nuclear deformation mediates liver cell mechanosensing in cirrhosis. JHEP Reports, 2020, 2, 100145.	4.9	35
44	A hybrid computational model for collective cell durotaxis. Biomechanics and Modeling in Mechanobiology, 2018, 17, 1037-1052.	2.8	33
45	NatB-mediated protein N-Î±-terminal acetylation is a potential therapeutic target in hepatocellular carcinoma. Oncotarget, 2017, 8, 40967-40981.	1.8	29
46	Papel del colÃ¡geno miocÃ¡rdico en la estenosis aÃ³rtica grave conÂfracciÃ³n deÂeyecciÃ³n conservada yÂsÃntomas deÂinsuficiencia cardiaca. Revista Espanola De Cardiologia, 2017, 70, 832-840.	1.2	26
47	Integrin Binding Dynamics Modulate Ligand-Specific Mechanosensing in Mammary Gland Fibroblasts. IScience, 2020, 23, 100907.	4.1	22
48	Binding of ZO-1 to Î±5Î²1 integrins regulates the mechanical properties of Î±5Î²1â€"fibronectin links. Molecular Biology of the Cell, 2017, 28, 1847-1852.	2.1	18
49	A theory of ordering of elongated and curved proteins on membranes driven by density and curvature. Soft Matter, 2021, 17, 3367-3379.	2.7	12
50	Loss of E-cadherin leads to Id2-dependent inhibition of cell cycle progression in metastatic lobular breast cancer. Oncogene, 2022, 41, 2932-2944.	5.9	10
51	Dynamic mechanochemical feedback between curved membranes and BAR protein self-organization. Nature Communications, 2021, 12, 6550.	12.8	9
52	Understanding the role of mechanics in nucleocytoplasmic transport. APL Bioengineering, 2022, 6, .	6.2	6
53	New approach for measuring protrusive forces in cells. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 06FA02.	1.2	3
54	Mechanochemical Feedback Control of Dynamin Independent Endocytosis Modulates Membrane Tension in Adherent Cells. Biophysical Journal, 2019, 116, 92a-93a.	0.5	3

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55	Special issue on â€œmechanotransduction in cell fate determinationâ€•â€“ From molecular switches to organ-level regulation. Experimental Cell Research, 2019, 382, 111452.	2.6	3
56	Sarcomere-Like Units Contract Cell Edges. Biophysical Journal, 2013, 104, 477a-478a.	0.5	1
57	Amoebae as Mechanosensitive Tanks. Biophysical Journal, 2017, 112, 2457-2458.	0.5	0
58	Cell scientist to watch â€“ Pere Roca-Cusachs. Journal of Cell Science, 2018, 131, .	2.0	0