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	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
2	Mechanical force application to the nucleus regulates nucleocytoplasmic transport. Nature Cell Biology, 2022, 24, 896-905.	10.3	61
3	Understanding the role of mechanics in nucleocytoplasmic transport. APL Bioengineering, 2022, 6, .	6.2	6
4	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
5	Mechanical compartmentalization of the intestinal organoid enables crypt folding and collective cell migration. Nature Cell Biology, 2021, 23, 745-757.	10.3	112
6	The force loading rate drives cell mechanosensing through both reinforcement and cytoskeletal softening. Nature Communications, 2021, 12, 4229.	12.8	48
7	Dynamic mechanochemical feedback between curved membranes and BAR protein self-organization. Nature Communications, 2021, 12, 6550.	12.8	9
8	Nuclear deformation mediates liver cell mechanosensing in cirrhosis. JHEP Reports, 2020, 2, 100145.	4.9	35
9	Integrin Binding Dynamics Modulate Ligand-Specific Mechanosensing in Mammary Gland Fibroblasts. IScience, 2020, 23, 100907.	4.1	22
10	The plasma membrane as a mechanochemical transducer. Philosophical Transactions of the Royal Society B: Biological Sciences, 2019, 374, 20180221.	4.0	134
11	The mechanical stability of proteins regulates their translocation rate into the cell nucleus. Nature Physics, 2019, 15, 973-981.	16.7	36
12	Mechanochemical Feedback Control of Dynamin Independent Endocytosis Modulates Membrane Tension in Adherent Cells. Biophysical Journal, 2019, 116, 92a-93a.	0.5	3
13	Integrins as biomechanical sensors ofÂthe microenvironment. Nature Reviews Molecular Cell Biology, 2019, 20, 457-473.	37.0	768
14	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
15	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
16	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
17	A hybrid computational model for collective cell durotaxis. Biomechanics and Modeling in Mechanobiology, 2018, 17, 1037-1052.	2.8	33
18	Control of Mechanotransduction by Molecular Clutch Dynamics. Trends in Cell Biology, 2018, 28, 356-367.	7.9	218

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19	Mechanosensing at integrin-mediated cellâ€“matrix adhesions: from molecular to integrated mechanisms. Current Opinion in Cell Biology, 2018, 50, 20-26.	5.4	75
20	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
21	Cell scientist to watch â€“ Pere Roca-Cusachs. Journal of Cell Science, 2018, 131, .	2.0	0
22	Mechanochemical feedback control of dynamin independent endocytosis modulates membrane tension in adherent cells. Nature Communications, 2018, 9, 4217.	12.8	106
23	Regulation of cell cycle progression by cellâ€“cell and cellâ€“matrix forces. Nature Cell Biology, 2018, 20, 646-654.	10.3	136
24	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
25	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
26	Quantifying forces in cell biology. Nature Cell Biology, 2017, 19, 742-751.	10.3	376
27	Amoebae as Mechanosensitive Tanks. Biophysical Journal, 2017, 112, 2457-2458.	0.5	0
28	Force Triggers YAP Nuclear Entry by Regulating Transport across Nuclear Pores. Cell, 2017, 171, 1397-1410.e14.	28.9	927
29	Long-lived force patterns and deformation waves at repulsive epithelial boundaries. Nature Materials, 2017, 16, 1029-1037.	27.5	65
30	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
31	Membrane tension controls adhesion positioning at the leading edge of cells. Journal of Cell Biology, 2017, 216, 2959-2977.	5.2	101
32	Force loading explains spatial sensing of ligands by cells. Nature, 2017, 552, 219-224.	27.8	244
33	NatB-mediated protein N-Î±-terminal acetylation is a potential therapeutic target in hepatocellular carcinoma. Oncotarget, 2017, 8, 40967-40981.	1.8	29
34	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
35	Collective cell durotaxis emerges from long-range intercellular force transmission. Science, 2016, 353, 1157-1161.	12.6	484
36	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

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37	Tropomyosin controls sarcomere-like contractions for rigidity sensing and suppressing growth on softÂmatrices. Nature Cell Biology, 2016, 18, 33-42.	10.3	168
38	Physical principles of membrane remodelling during cell mechanoadaptation. Nature Communications, 2015, 6, 7292.	12.8	91
39	Control of cellâ€“cell forces and collective cell dynamics by the intercellular adhesome. Nature Cell Biology, 2015, 17, 409-420.	10.3	275
40	Rigidity sensing and adaptation through regulation of integrin types. Nature Materials, 2014, 13, 631-637.	27.5	304
41	Mechanical guidance of cell migration: lessons from chemotaxis. Current Opinion in Cell Biology, 2013, 25, 543-549.	5.4	136
42	Sarcomere-Like Units Contract Cell Edges. Biophysical Journal, 2013, 104, 477a-478a.	0.5	1
43	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
44	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
45	Finding the weakest link â€" exploring integrin-mediated mechanical molecular pathways. Journal of Cell Science, 2012, 125, 3025-38.	2.0	215
46	Filamin depletion blocks endoplasmic spreading and destabilizes force-bearing adhesions. Molecular Biology of the Cell, 2011, 22, 1263-1273.	2.1	59
47	New approach for measuring protrusive forces in cells. Journal of Vacuum Science and Technology B:Nanotechnology and Microelectronics, 2011, 29, 06FA02.	1.2	3
48	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
49	Stretchy Proteins on Stretchy Substrates: The Important Elements of Integrin-Mediated Rigidity Sensing. Developmental Cell, 2010, 19, 194-206.	7.0	364
50	Stretching Single Talin Rod Molecules Activates Vinculin Binding. Science, 2009, 323, 638-641.	12.6	1,297
51	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
52	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
53	Mapping Cell-Matrix Stresses during Stretch Reveals Inelastic Reorganization of the Cytoskeleton. Biophysical Journal, 2008, 95, 464-471.	0.5	70
54	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

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55	Rheology of Passive and Adhesion-Activated Neutrophils Probed by Atomic Force Microscopy. Biophysical Journal, 2006, 91, 3508-3518.	0.5	85
56	Thrombin-induced contraction in alveolar epithelial cells probed by traction microscopy. Journal of Applied Physiology, 2006, 101, 512-520.	2.5	41
57	Probing mechanical properties of living cells by atomic force microscopy with blunted pyramidal cantilever tips. Physical Review E, 2005, 72, 021914.	2.1	316
58	Stability of Microfabricated High Aspect Ratio Structures in Poly(dimethylsiloxane). Langmuir, 2005, 21, 5542-5548.	3.5	132