Elisabetta A Cavalcanti-Adam

List of Publications by Year
in descending order

82 papers	6,136 citations	126907 33 h-index	71685 76 g-index
91 all docs	91 docs citations	91 times ranked	7643 citing authors

#	Article	IF	Citations
1	Activation of Integrin Function by Nanopatterned Adhesive Interfaces. ChemPhysChem, 2004, 5, 383-388.	2.1	1,093
2	Cell Spreading and Focal Adhesion Dynamics Are Regulated by Spacing of Integrin Ligands. Biophysical Journal, 2007, 92, 2964-2974.	0.5	840
3	A Comprehensive Evaluation of the Activity and Selectivity Profile of Ligands for RGD-binding Integrins. Scientific Reports, 2017, 7, 39805.	3.3	425
4	Lateral spacing of integrin ligands influences cell spreading and focal adhesion assembly. European Journal of Cell Biology, 2006, 85, 219-224.	3.6	336
5	Induction of Cell Polarization and Migration by a Gradient of Nanoscale Variations in Adhesive Ligand Spacing. Nano Letters, 2008, 8, 2063-2069.	9.1	292
6	Target Expression, Generation, Preclinical Activity, and Pharmacokinetics of the BCMA-T Cell Bispecific Antibody EM801 for Multiple Myeloma Treatment. Cancer Cell, 2017, 31, 396-410.	16.8	251
7	Force loading explains spatial sensing of ligands by cells. Nature, 2017, 552, 219-224.	27.8	244
8	Cell interactions with hierarchically structured nano-patterned adhesive surfaces. Soft Matter, 2009, 5, 72-77.	2.7	167
9	Nanoparticle Tension Probes Patterned at the Nanoscale: Impact of Integrin Clustering on Force Transmission. Nano Letters, 2014, 14, 5539-5546.	9.1	124
10	Unjamming overcomes kinetic and proliferation arrest in terminally differentiated cells and promotes collective motility of carcinoma. Nature Materials, 2019, 18, 1252-1263.	27.5	117
11	Cellular chemomechanics at interfaces: sensing, integration and response. Soft Matter, 2007, 3, 307.	2.7	114
12	Cell adhesion and response to synthetic nanopatterned environments by steering receptor clustering and spatial location. HFSP Journal, 2008, 2, 276-285.	2.5	106
13	Nanoscale Control of Surface Immobilized BMP-2: Toward a Quantitative Assessment of BMP-Mediated Signaling Events. Nano Letters, 2015, 15, 1526-1534.	9.1	87
14	Apoptosis and Survival of Osteoblast-like Cells Are Regulated by Surface Attachment. Journal of Biological Chemistry, 2005, 280, 1733-1739.	3.4	83
15	An Emerging Allee Effect Is Critical for Tumor Initiation and Persistence. PLoS Computational Biology, 2015, 11, e1004366.	3.2	81
16	Functionalizing Î±vÎ²3â€•or Î±5Î²1â€šelective Integrin Antagonists for Surface Coating: A Method To Discriminate Integrin Subtypes Inâ€…Vitro. Angewandte Chemie - International Edition, 2013, 52, 1572-1575.	13.8	80
17	Cell adhesion and polarisation on molecularly defined spacing gradient surfaces of cyclic RGDfK peptide patches. European Journal of Cell Biology, 2008, 87, 743-750.	3.6	78
18	Amoeboid-mesenchymal migration plasticity promotes invasion only in complex heterogeneous microenvironments. Scientific Reports, 2017, 7, 9237.	3.3	78

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19	Polymeric Substrates with Tunable Elasticity and Nanoscopically Controlled Biomolecule Presentation. Langmuir, 2010, 26, 15472-15480.	3.5	75
20	Tuning cellular responses to BMP-2 with material surfaces. Cytokine and Growth Factor Reviews, 2016, 27, 43-54.	7.2	74
21	BMPR2 acts as aÂgatekeeper to protect endothelial cells from increased TGFÎ²Âresponses and altered cell mechanics. PLoS Biology, 2019, 17, e3000557.	5.6	71
22	Osteogenic differentiation of mesenchymal stem cells from dental bud: Role of integrins and cadherins. Stem Cell Research, 2015, 15, 618-628.	0.7	70
23	BMPâ€2 Signaling and Mechanotransduction Synergize to Drive Osteogenic Differentiation via YAP/TAZ. Advanced Science, 2020, 7, 1902931.	11.2	66
24	Surface immobilization of bone morphogenetic protein 2 via a self-assembled monolayer formation induces cell differentiation. Acta Biomaterialia, 2012, 8, 772-780.	8.3	64
25	RGDS peptides immobilized on titanium alloy stimulate bone cell attachment, differentiation and confer resistance to apoptosis. Journal of Biomedical Materials Research - Part A, 2007, 83A, 577-584.	4.0	56
26	Hydrogel Micropillars with Integrin Selective Peptidomimetic Functionalized Nanopatterned Tops: A New Tool for the Measurement of Cell Traction Forces Transmitted through Î±_vÎ²₃â€•or Î±₅Î²₁â€‘Integrins. Advanced Materials, 2013, 25, 5869-5874.	21.0	54
27	RGD Peptides Immobilized on a Mechanically Deformable Surface Promote Osteoblast Differentiation. Journal of Bone and Mineral Research, 2002, 17, 2130-2140.	2.8	50
28	Ligand Diffusion Enables Forceâ€‘Independent Cell Adhesion via Activating Î±5Î²1 Integrin and Initiating Rac and RhoA Signaling. Advanced Materials, 2020, 32, e2002566.	21.0	50
29	Block copolymer micelle nanolithography on non-conductive substrates. New Journal of Physics, 2004, 6, 101-101.	2.9	48
30	Controllable ligand spacing stimulates cellular mechanotransduction and promotes stem cell osteogenic differentiation on soft hydrogels. Biomaterials, 2021, 268, 120543.	11.4	48
31	Regulation of integrin and growth factor signaling in biomaterials for osteodifferentiation. Beilstein Journal of Organic Chemistry, 2015, 11, 773-783.	2.2	47
32	Vitamin D Effects on Osteoblastic Differentiation of Mesenchymal Stem Cells from Dental Tissues. Stem Cells International, 2016, 2016, 1-9.	2.5	47
33	Selective binding and lateral clustering ofÎ±5Î²1 andÎ±vÎ²3 integrins: Unraveling the spatial requirements for cell spreading and focal adhesion assembly. Cell Adhesion and Migration, 2016, 10, 505-515.	2.7	37
34	Soft Hydrogels for Balancing Cell Proliferation and Differentiation. ACS Biomaterials Science and Engineering, 2020, 6, 4687-4701.	5.2	37
35	Distinct Effects of RGD-glycoproteins on Integrin-Mediated Adhesion and Osteogenic Differentiation of Human Mesenchymal Stem Cells. International Journal of Medical Sciences, 2013, 10, 1846-1859.	2.5	35
36	Forces during cellular uptake of viruses and nanoparticles at the ventral side. Nature Communications, 2020, 11, 32.	12.8	35

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37	Segregation Versus Colocalization: Orthogonally Functionalized Binary Micropatterned Substrates Regulate the Molecular Distribution in Focal Adhesions. Advanced Materials, 2015, 27, 3737-3747.	21.0	34
38	Selective modulation of cell response on engineered fractal silicon substrates. Scientific Reports, 2013, 3, 1461.	3.3	32
39	An optochemical tool for light-induced dissociation of adherens junctions to control mechanical coupling between cells. Nature Communications, 2020, 11, 472.	12.8	31
40	Vitamin D Promotes MSC Osteogenic Differentiation Stimulating Cell Adhesion and Î±VÎ²3 Expression. Stem Cells International, 2018, 2018, 1-9.	2.5	28
41	Matrix-Immobilized BMP-2 on Microcontact Printed Fibronectin as an in vitro Tool to Study BMP-Mediated Signaling and Cell Migration. Frontiers in Bioengineering and Biotechnology, 2015, 3, 62.	4.1	26
42	Bioactivity of xerogels as modulators of osteoclastogenesis mediated by connexin 43. Biomaterials, 2014, 35, 1487-1495.	11.4	25
43	Enhanced Biological Activity of BMPâ€2 Bound to Surfaceâ€Grafted Heparan Sulfate. Advanced Biology, 2017, 1, e1600041.	3.0	24
44	Investigation of early cellâ€“surface interactions of human mesenchymal stem cells on nanopatterned Î²-type titaniumâ€“niobium alloy surfaces. Interface Focus, 2014, 4, 20130046.	3.0	20
45	Heparan sulfate co-immobilized with cRGD ligands and BMP2 on biomimetic platforms promotes BMP2-mediated osteogenic differentiation. Acta Biomaterialia, 2020, 114, 90-103.	8.3	20
46	Synthetic virions reveal fatty acid-coupled adaptive immunogenicity of SARS-CoV-2 spike glycoprotein. Nature Communications, 2022, 13, 868.	12.8	20
47	NURR1 Downregulation Favors Osteoblastic Differentiation of MSCs. Stem Cells International, 2017, 2017, 1-10.	2.5	19
48	Functionalization of Cellular Membranes with DNA Nanotechnology. Trends in Biotechnology, 2021, 39, 1208-1220.	9.3	19
49	Surface Immobilization of Viruses and Nanoparticles Elucidates Early Events in Clathrin-Mediated Endocytosis. ACS Infectious Diseases, 2018, 4, 1585-1600.	3.8	18
50	Bioengineering Bone Tissue with 3D Printed Scaffolds in the Presence of Oligostilbenes. Materials, 2020, 13, 4471.	2.9	18
51	An Engineered Biomimetic Peptide Regulates Cell Behavior by Synergistic Integrin and Growth Factor Signaling. Advanced Healthcare Materials, 2021, 10, 2001757.	7.6	16
52	Hyaluronan hydrogels delivering BMP-6 for local targeting of malignant plasma cells and osteogenic differentiation of mesenchymal stromal cells. Acta Biomaterialia, 2019, 96, 258-270.	8.3	15
53	Surface Co-presentation of BMP-2 and integrin selective ligands at the nanoscale favors Î±5Î²1 integrin-mediated adhesion. Biomaterials, 2021, 267, 120484.	11.4	15
54	Force-induced destabilization of focal adhesions at defined integrin spacings on nanostructured surfaces. Physical Review E, 2010, 81, 051914.	2.1	14

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55	Adherent cells avoid polarization gradients on periodically poled LiTaO3 ferroelectrics. Biointerphases, 2013, 8, 27.	1.6	13
56	Switchable Release of Bone Morphogenetic Protein from Thermoresponsive Poly(NIPAM-co-DMAEMA)/Cellulose Sulfate Particle Coatings. Polymers, 2018, 10, 1314.	4.5	13
57	Osteogenic and Chondrogenic Potential of the Supramolecular Aggregate T-LysYalÂ®. Frontiers in Endocrinology, 2020, 11, 285.	3.5	12
58	Copresentation of BMP-6 and RGD Ligands Enhances Cell Adhesion and BMP-Mediated Signaling. Cells, 2019, 8, 1646.	4.1	11
59	Focal adhesion stabilization by enhanced integrin-cRGD binding affinity. BioNanoMaterials, 2017, 18, .	1.4	10
60	Soft/Elastic Nanopatterned Biointerfaces in the Service of Cell Biology. Methods in Cell Biology, 2014, 119, 237-260.	1.1	9
61	Receptor clustering control and associated force sensing by surface patterning: when force matters. Nanomedicine, 2015, 10, 681-684.	3.3	9
62	Biomaterials and computation: a strategic alliance to investigate emergent responses of neural cells. Biomaterials Science, 2017, 5, 648-657.	5.4	9
63	Tuning Epithelial Cellâ€“Cell Adhesion and Collective Dynamics with Functional DNA-E-Cadherin Hybrid Linkers. Nano Letters, 2022, 22, 302-310.	9.1	9
64	Light- and transmission-electron-microscopic investigations on distribution of CD44, connexin 43 and actin cytoskeleton during the foreign body reaction to a nanoparticular hydroxyapatite in mini-pigs. Acta Biomaterialia, 2012, 8, 2807-2814.	8.3	7
65	Building nanobridges for cell adhesion. Nature Materials, 2019, 18, 1272-1273.	27.5	7
66	$$upalpha 5upbeta $$ Î± 5 Î² 1-integrin and MT1-MMP promote tumor cell migration in 2D but not in 3D fibronectin microenvironments. Computational Mechanics, 2014, 53, 499-510.	4.0	6
67	Colloid, adhesive and release properties of nanoparticular ternary complexes between cationic and anionic polysaccharides and basic proteins like bone morphogenetic protein BMP-2. Colloids and Surfaces B: Biointerfaces, 2017, 151, 58-67.	5.0	6
68	Role of Clathrin Light Chains in Regulating Invadopodia Formation. Cells, 2021, 10, 451.	4.1	6
69	Biosensors for Studies on Adhesion-Mediated Cellular Responses to Their Microenvironment. Frontiers in Bioengineering and Biotechnology, 2020, 8, 597950.	4.1	5
70	Nanoindentation of mesenchymal stem cells using atomic force microscopy: effect of adhesive cell-substrate structures. Nanotechnology, 2021, 32, 215706.	2.6	5
71	Targeting Adult Mesenchymal Stem Cells Plasticity for Tissue Regeneration. Stem Cells International, 2017, 2017, 1-2.	2.5	4
72	Challenges in imaging cell surface receptor clusters. Optics and Lasers in Engineering, 2016, 76, 3-8.	3.8	3

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73	Integrin Î±_{IIb}Î²₃ Activation and Clustering in Minimal Synthetic Cells. Advanced NanoBiomed Research, 2022, 2, .	3.6	3
74	Covalent Binding of BMP-2 on Surfaces Using a Self-assembled Monolayer Approach. Journal of Visualized Experiments, 2013, , .	0.3	2
75	BMPâ€6 Loaded Polyelectrolyte Complex Nanoparticles Inducing Osteogenic Differentiation and Apoptosis of Malignant Plasma Cells for Local Treatment of Multiple Myeloma. Particle and Particle Systems Characterization, 2021, 38, 2000263.	2.3	1
76	Surface Patterning for the Control of Receptor Clustering and Molecular Forces of Integrin-Mediated Adhesions. Methods in Molecular Biology, 2021, 2217, 183-195.	0.9	1
77	Actomyosin-Assisted Pulling of Lipid Nanotubes from Lipid Vesicles and Cells. Nano Letters, 2022, 22, 1145-1150.	9.1	1
78	Comment on â€œTuning the bioactivity of bone morphogenetic protein-2 with surface immobilization strategiesâ€•by Chen et al.. Acta Biomaterialia, 2019, 89, 419.	8.3	0
79	Single Cell Center of Mass for the Analysis of BMP Receptor Heterodimers Distributions. Journal of Imaging, 2021, 7, 219.	3.0	0
80	Surface functionalization of biomaterials for cell biology applications. , 2020, , 163-176.		0
81	An in vitro DNA Sensor-based Assay to Measure Receptor-specific Adhesion Forces of Eukaryotic Cells and Pathogens. Bio-protocol, 2020, 10, e3733.	0.4	0
82	Control of Cell Adhesion using Hydrogel Patterning Techniques for Applications in Traction Force Microscopy. Journal of Visualized Experiments, 2022, , .	0.3	0