Lucas R Smith

List of Publications by Year
in descending order

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40 papers	2,384 citations	236925 25 h-index	361022 35 g-index
44 all docs	44 docs citations	44 times ranked	3504 citing authors

#	Article	IF	Citations
1	Hamstring contractures in children with spastic cerebral palsy result from a stiffer extracellular matrix and increased in vivo sarcomere length. Journal of Physiology, 2011, 589, 2625-2639.	2.9	353
2	Stem Cell Differentiation is Regulated by Extracellular Matrix Mechanics. Physiology, 2018, 33, 16-25.	3.1	191
3	SMASH â€“ semi-automatic muscle analysis using segmentation of histology: a MATLAB application. Skeletal Muscle, 2014, 4, 21.	4.2	171
4	Nuclear rupture at sites of high curvature compromises retention of DNA repair factors. Journal of Cell Biology, 2018, 217, 3796-3808.	5.2	134
5	Method for Decellularizing Skeletal Muscle Without Detergents or Proteolytic Enzymes. Tissue Engineering - Part C: Methods, 2011, 17, 383-389.	2.1	109
6	Mechanisms of Plastic Deformation in Collagen Networks Induced by Cellular Forces. Biophysical Journal, 2018, 114, 450-461.	0.5	108
7	Collagen content does not alter the passive mechanical properties of fibrotic skeletal muscle inmdxmice. American Journal of Physiology - Cell Physiology, 2014, 306, C889-C898.	4.6	105
8	SIRPA-Inhibited, Marrow-Derived Macrophages Engorge, Accumulate, and Differentiate in Antibody-Targeted Regression of Solid Tumors. Current Biology, 2017, 27, 2065-2077.e6.	3.9	99
9	Matrix Mechanosensing: From Scaling Concepts in â€™Omics Data to Mechanisms in the Nucleus, Regeneration, and Cancer. Annual Review of Biophysics, 2017, 46, 295-315.	10.0	89
10	Regulation of fibrosis in muscular dystrophy. Matrix Biology, 2018, 68-69, 602-615.	3.6	87
11	Novel transcriptional profile in wrist muscles from cerebral palsy patients. BMC Medical Genomics, 2009, 2, 44.	1.5	84
12	Reduced satellite cell population may lead to contractures in children with cerebral palsy. Developmental Medicine and Child Neurology, 2013, 55, 264-270.	2.1	81
13	Rescue of DNA damage after constricted migration reveals a mechano-regulated threshold for cell cycle. Journal of Cell Biology, 2019, 218, 2545-2563.	5.2	76
14	Increased collagen crossâ€linking is a signature of dystrophinâ€deficient muscle. Muscle and Nerve, 2016, 54, 71-78.	2.2	66
15	Mechanosensing of matrix by stem cells: From matrix heterogeneity, contractility, and the nucleus in pore-migration to cardiogenesis and muscle stem cells in vivo. Seminars in Cell and Developmental Biology, 2017, 71, 84-98.	5.0	61
16	Systems analysis of biological networks in skeletal muscle function. Wiley Interdisciplinary Reviews: Systems Biology and Medicine, 2013, 5, 55-71.	6.6	56
17	Matrix metalloproteinase 13 is a new contributor to skeletal muscle regeneration and critical for myoblast migration. American Journal of Physiology - Cell Physiology, 2013, 305, C529-C538.	4.6	53
18	Transcriptional Abnormalities of Hamstring Muscle Contractures in Children with Cerebral Palsy. PLoS ONE, 2012, 7, e40686.	2.5	50

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19	Impaired skeletal muscle mitochondrial bioenergetics and physical performance in chronic kidney disease. JCI Insight, 2020, 5, .	5.0	48
20	Cooperative Cross-Bridge Activation of Thin Filaments Contributes to the Frank-Starling Mechanism in Cardiac Muscle. Biophysical Journal, 2009, 96, 3692-3702.	0.5	45
21	Distinct effects of different matrix proteoglycans on collagen fibrillogenesis and cell-mediated collagen reorganization. Scientific Reports, 2020, 10, 19065.	3.3	42
22	Targeting latent TGFÎ² release in muscular dystrophy. Science Translational Medicine, 2014, 6, 259ra144.	12.4	41
23	Passive stiffness of fibrotic skeletal muscle in mdx mice relates to collagen architecture. Journal of Physiology, 2021, 599, 943-962.	2.9	40
24	Contribution of extracellular matrix components to the stiffness of skeletal muscle contractures in patients with cerebral palsy. Connective Tissue Research, 2021, 62, 287-298.	2.3	32
25	Muscle extracellular matrix applies a transverse stress on fibers with axial strain. Journal of Biomechanics, 2011, 44, 1618-1620.	2.1	31
26	Matrix Metalloproteinase 13 from Satellite Cells is Required for Efficient Muscle Growth and Regeneration. Cellular Physiology and Biochemistry, 2020, 54, 333-353.	1.6	24
27	Constricted migration modulates stem cell differentiation. Molecular Biology of the Cell, 2019, 30, 1985-1999.	2.1	23
28	The Effects of Force Inhibition by Sodium Vanadate on Cross-Bridge Binding, Force Redevelopment, and Ca2+ Activation in Cardiac Muscle. Biophysical Journal, 2007, 92, 4379-4390.	0.5	20
29	Masticatory muscles of mouse do not undergo atrophy in space. FASEB Journal, 2015, 29, 2769-2779.	0.5	19
30	Skeletal muscle progenitors are sensitive to collagen architectural features of fibril size and cross linking. American Journal of Physiology - Cell Physiology, 2021, 321, C330-C342.	4.6	17
31	Skeletal muscle explants: ex-vivo models to study cellular behavior in a complex tissue environment. Connective Tissue Research, 2020, 61, 248-261.	2.3	10
32	A mutation in desmin makes skeletal muscle less vulnerable to acute muscle damage after eccentric loading in rats. FASEB Journal, 2021, 35, e21860.	0.5	8
33	Functional muscle hypertrophy by increased insulinâ€like growth factor 1 does not require dysferlin. Muscle and Nerve, 2019, 60, 464-473.	2.2	4
34	Influencing the secretion of myogenic factors from mesenchymal stem cells. Stem Cell Research and Therapy, 2014, 5, 96.	5.5	2
35	Skeletal muscle changes due to cerebral palsy. , 2014, , 135-155.		1
36	Mechanosensing of Solid Tumors by Cancer-Attacking Macrophages. Biophysical Journal, 2018, 114, 654a.	0.5	1

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37	Nuclear Rupture at Sites of High Curvature Compromises Retention of DNA Repair Factors. Biophysical Journal, 2019, 116, 19a.	0.5	1
38	Response to Letter to the Editor: â€˜Poisson's ratios in anisotropic materials at finite strains; comment on short communication by Smith et al. (2011)â€™. Journal of Biomechanics, 2012, 45, 1859-1860.	2.1	0
39	Matrix Rigidity Myosin-II and Lamin-A Regulate Curvature Induced Nuclear Rupture Causing Repair Factor Mislocalization and DNA Damage. Biophysical Journal, 2018, 114, 515a.	0.5	0
40	Collagen Content and Crossâ€links Scale with Passive Stiffness in Dystrophic Mouse Diaphragm, but are not Altered with Administration of Collagen Crossâ€linking Inhibitor Betaâ€aminopropionitrile. FASEB Journal, 2021, 35, .	0.5	0