Sergey Leikin

List of Publications by Year
in descending order

98 papers	9,526 citations	38742 50 h-index	38395 95 g-index
99 all docs	99 docs citations	99 times ranked	9212 citing authors

#	Article	IF	Citations
1	Guidelines for the use and interpretation of assays for monitoring autophagy (4th) Tj ETQq1 1 0.784314 rgBT /Overlock 10 Tf 50 742 Td	9.1	1,430
2	Reversible electrical breakdown of lipid bilayers: formation and evolution of pores. Biochimica Et Biophysica Acta - Biomembranes, 1988, 940, 275-287.	2.6	528
3	Hydration Forces. Annual Review of Physical Chemistry, 1993, 44, 369-395.	10.8	489
4	Type I collagen is thermally unstable at body temperature. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 1314-1318.	7.1	488
5	Prolyl 3-hydroxylase 1 deficiency causes a recessive metabolic bone disorder resembling lethal/severe osteogenesis imperfecta. Nature Genetics, 2007, 39, 359-365.	21.4	429
6	Deficiency of Cartilage-Associated Protein in Recessive Lethal Osteogenesis Imperfecta. New England Journal of Medicine, 2006, 355, 2757-2764.	27.0	307
7	Structure and interactions of biological helices. Reviews of Modern Physics, 2007, 79, 943-996.	45.6	285
8	Measured effects of diacylglycerol on structural and elastic properties of phospholipid membranes. Biophysical Journal, 1996, 71, 2623-2632.	0.5	240
9	Mutations in WNT1 Cause Different Forms of Bone Fragility. American Journal of Human Genetics, 2013, 92, 565-574.	6.2	240
10	Electrostatic Zipper Motif for DNA Aggregation. Physical Review Letters, 1999, 82, 4138-4141.	7.8	205
11	Lack of Cyclophilin B in Osteogenesis Imperfecta with Normal Collagen Folding. New England Journal of Medicine, 2010, 362, 521-528.	27.0	158
12	Raman spectral evidence for hydration forces between collagen triple helices. Proceedings of the National Academy of Sciences of the United States of America, 1997, 94, 11312-11317.	7.1	155
13	Stalk mechanism of vesicle fusion. European Biophysics Journal, 1989, 17, 121-9.	2.2	151
14	Temperature-favoured assembly of collagen is driven by hydrophilic not hydrophobic interactions. Nature Structural and Molecular Biology, 1995, 2, 205-210.	8.2	150
15	Membrane fusion: Overcoming of the hydration barrier and local restructuring. Journal of Theoretical Biology, 1987, 129, 411-425.	1.7	142
16	Direct measurement of forces between self-assembled proteins: temperature-dependent exponential forces between collagen triple helices.. Proceedings of the National Academy of Sciences of the United States of America, 1994, 91, 276-280.	7.1	137
17	Noncanonical autophagy at ER exit sites regulates procollagen turnover. Proceedings of the National Academy of Sciences of the United States of America, 2018, 115, E10099-E10108.	7.1	136
18	Bending, hydration and interstitial energies quantitatively account for the hexagonal-lamellar-hexagonal reentrant phase transition in dioleoylphosphatidylethanolamine. Biophysical Journal, 1994, 67, 1603-1611.	0.5	134

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19	COL1 C-propeptide cleavage site mutations cause high bone mass osteogenesis imperfecta. Human Mutation, 2011, 32, 598-609.	2.5	119
20	Mutations Near Amino End of Î±1(I) Collagen Cause Combined Osteogenesis Imperfecta/Ehlers-Danlos Syndrome by Interference with N-propeptide Processing. Journal of Biological Chemistry, 2005, 280, 19259-19269.	3.4	118
21	MBTPS2 mutations cause defective regulated intramembrane proteolysis in X-linked osteogenesis imperfecta. Nature Communications, 2016, 7, 11920.	12.8	112
22	Molecular Mechanism of Type I Collagen Homotrimer Resistance to Mammalian Collagenases. Journal of Biological Chemistry, 2010, 285, 22276-22281.	3.4	100
23	Variable bone fragility associated with an Amish COL1A2 variant and a knock-in mouse model. Journal of Bone and Mineral Research, 2010, 25, 247-261.	2.8	98
24	Abnormal Type I Collagen Post-translational Modification and Crosslinking in a Cyclophilin B KO Mouse Model of Recessive Osteogenesis Imperfecta. PLoS Genetics, 2014, 10, e1004465.	3.5	98
25	Does the Triple Helical Domain of Type I Collagen Encode Molecular Recognition and Fiber Assembly while Telopeptides Serve as Catalytic Domains?. Journal of Biological Chemistry, 1999, 274, 36083-36088.	3.4	97
26	Zebrafish Collagen Type I: Molecular and Biochemical Characterization of the Major Structural Protein in Bone and Skin. Scientific Reports, 2016, 6, 21540.	3.3	97
27	Sequence Recognition in the Pairing of DNA Duplexes. Physical Review Letters, 2001, 86, 3666-3669.	7.8	94
28	In utero transplantation of adult bone marrow decreases perinatal lethality and rescues the bone phenotype in the knockin murine model for classical, dominant osteogenesis imperfecta. Blood, 2009, 114, 459-468.	1.4	93
29	Fluctuation theory of hydration forces: The dramatic effects of inhomogeneous boundary conditions. Physical Review A, 1989, 40, 6431-6437.	2.5	91
30	Electrostatic interaction between helical macromolecules in dense aggregates: An impetus for DNA poly- and meso-morphism. Proceedings of the National Academy of Sciences of the United States of America, 1998, 95, 13579-13584.	7.1	91
31	Sugars and Polyols Inhibit Fibrillogenesis of Type I Collagen by Disrupting Hydrogen-Bonded Water Bridges between the Helices. Biochemistry, 1998, 37, 11888-11895.	2.5	90
32	Carcinomas Contain a Matrix Metalloproteinaseâ€“Resistant Isoform of Type I Collagen Exerting Selective Support to Invasion. Cancer Research, 2010, 70, 4366-4374.	0.9	89
33	Absence ofFKBP10in recessive type XI osteogenesis imperfecta leads to diminished collagen cross-linking and reduced collagen deposition in extracellular matrix. Human Mutation, 2012, 33, 1589-1598.	2.5	86
34	Structural Heterogeneity of Type I Collagen Triple Helix and Its Role in Osteogenesis Imperfecta. Journal of Biological Chemistry, 2008, 283, 4787-4798.	3.4	81
35	Molecular Mechanism of Î±1(I)-Osteogenesis Imperfecta/Ehlers-Danlos Syndrome. Journal of Biological Chemistry, 2006, 281, 6463-6470.	3.4	77
36	Measured entropy and enthalpy of hydration as a function of distance between DNA double helices. Physical Review A, 1991, 44, 5272-5278.	2.5	75

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37	DNA Double Helices Recognize Mutual Sequence Homology in a Protein Free Environment. Journal of Physical Chemistry B, 2008, 112, 1060-1064.	2.6	73
38	Osteoblast Malfunction Caused by Cell Stress Response to Procollagen Misfolding in Î±2(I)-G610C Mouse Model of Osteogenesis Imperfecta. Journal of Bone and Mineral Research, 2016, 31, 1608-1616.	2.8	71
39	Chaperoning osteogenesis: new protein-folding disease paradigms. Trends in Cell Biology, 2011, 21, 168-176.	7.9	70
40	The chaperone activity of 4PBA ameliorates the skeletal phenotype of Chihuahua, a zebrafish model for dominant osteogenesis imperfecta. Human Molecular Genetics, 2017, 26, 2897-2911.	2.9	68
41	Interactions of Inorganic Phosphate and Sulfate Anions with Collagen. Biochemistry, 2004, 43, 14901-14912.	2.5	67
42	Temperature-Dependent DNA Condensation Triggered by Rearrangement of Adsorbed Cations. Journal of Physical Chemistry B, 2002, 106, 13362-13369.	2.6	64
43	Changes in Thermal Stability and Microunfolding Pattern of Collagen Helix Resulting from the Loss of Î±2(I) Chain in Osteogenesis Imperfecta Murine. Journal of Molecular Biology, 2003, 331, 191-200.	4.2	64
44	Torsional Deformation of Double Helix in Interaction and Aggregation of DNA. Journal of Physical Chemistry B, 2004, 108, 6508-6518.	2.6	63
45	Y-position cysteine substitution in type I collagen (Î±1(I) R888C/p.R1066C) is associated with osteogenesis imperfecta/Ehlers-Danlos syndrome phenotype. Human Mutation, 2007, 28, 396-405.	2.5	63
46	Theory of hydration forces. Nonlocal electrostatic interaction of neutral surfaces. Journal of Chemical Physics, 1990, 92, 6890-6898.	3.0	62
47	Electrostatic interaction between long, rigid helical macromolecules at all interaxial angles. Physical Review E, 2000, 62, 2576-2596.	2.1	57
48	Defective C-propeptides of the ProÎ±2(I) Chain of Type I Procollagen Impede Molecular Assembly and Result in Osteogenesis Imperfecta. Journal of Biological Chemistry, 2008, 283, 16061-16067.	3.4	57
49	Solvent hydrogen-bond network in protein self-assembly: solvation of collagen triple helices in nonaqueous solvents. Biophysical Journal, 1997, 72, 353-362.	0.5	56
50	Procollagen Triple Helix Assembly: An Unconventional Chaperone-Assisted Folding Paradigm. PLoS ONE, 2007, 2, e1029.	2.5	56
51	Kuskokwim Syndrome, a Recessive Congenital Contracture Disorder, Extends the Phenotype ofFKBP10â€‰ Mutations. Human Mutation, 2013, 34, 1279-1288.	2.5	53
52	Selective retention and degradation of molecules with a single mutant Î±1(I) chain in the Brtl IV mouse model of OI. Matrix Biology, 2007, 26, 604-614.	3.6	52
53	Absence of the ER Cation Channel TMEM38B/TRIC-B Disrupts Intracellular Calcium Homeostasis and Dysregulates Collagen Synthesis in Recessive Osteogenesis Imperfecta. PLoS Genetics, 2016, 12, e1006156.	3.5	49
54	â€œOverscreeningâ€•in a polar liquid as a result of coupling between polarization and density fluctuations. Electrochimica Acta, 1997, 42, 849-865.	5.2	43

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55	Alternate protein kinase A activity identifies a unique population of stromal cells in adult bone. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 8683-8688.	7.1	42
56	Symmetry Laws for Interaction between Helical Macromolecules. Biophysical Journal, 1998, 75, 2513-2519.	0.5	40
57	Genetic Defects in TAPT1 Disrupt Ciliogenesis and Cause a Complex Lethal Osteochondrodysplasia. American Journal of Human Genetics, 2015, 97, 521-534.	6.2	39
58	Measurement of Forces between Hydroxypropylcellulose Polymers:â€‰ Temperature Favored Assembly and Salt Exclusion. Journal of Physical Chemistry B, 2001, 105, 1877-1886.	2.6	37
59	P4HA1 mutations cause a unique congenital disorder of connective tissue involving tendon, bone, muscle and the eye. Human Molecular Genetics, 2017, 26, 2207-2217.	2.9	37
60	Helical coherence of DNA in crystals and solution. Nucleic Acids Research, 2008, 36, 5540-5551.	14.5	36
61	Twist in Chiral Interaction between Biological Helices. Physical Review Letters, 2000, 84, 2537-2540.	7.8	35
62	Direct Observation of Azimuthal Correlations between DNA in Hydrated Aggregates. Physical Review Letters, 2005, 95, 148102.	7.8	33
63	Endoplasmic reticulum stress is induced in growth plate hypertrophic chondrocytes in G610C mouse model of osteogenesis imperfecta. Biochemical and Biophysical Research Communications, 2019, 509, 235-240.	2.1	33
64	Definition of surface tension at a non-spherical interface. Journal of the Chemical Society, Faraday Transactions 2, 1988, 84, 1149.	1.1	32
65	Structure, stability and interactions of type I collagen with GLY349-CYS substitution in Î±1(I) chain in a murine Osteogenesis Imperfecta model. Matrix Biology, 2004, 23, 101-112.	3.6	32
66	Evidence of biomechanical and collagen heterogeneity in uterine fibroids. PLoS ONE, 2019, 14, e0215646.	2.5	32
67	Mean-field theory of dehydration transitions. Physical Review A, 1991, 44, 1156-1168.	2.5	30
68	Deficiency of CRTAP in nonâ€lethal recessive osteogenesis imperfecta reduces collagen deposition into matrix. Clinical Genetics, 2012, 82, 453-459.	2.0	30
69	Type I Collagen Triplet Duplication Mutation in Lethal Osteogenesis Imperfecta Shifts Register of Î± Chains throughout the Helix and Disrupts Incorporation of Mutant Helices into Fibrils and Extracellular Matrix. Journal of Biological Chemistry, 2003, 278, 10006-10012.	3.4	29
70	Segregation of Type I Collagen Homo- and Heterotrimers in Fibrils. Journal of Molecular Biology, 2008, 383, 122-132.	4.2	28
71	Electrostatic Braiding and Homologous Pairing of DNA Double Helices. Biophysical Journal, 2011, 101, 875-884.	0.5	28
72	Elastic properties of interfaces. Elasticity moduli and spontaneous geometric characteristics. Journal of the Chemical Society, Faraday Transactions 2, 1989, 85, 277.	1.1	27

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73	Mechanisms of procollagen and HSP47 sorting during ER-to-Golgi trafficking. Matrix Biology, 2020, 93, 79-94.	3.6	25
74	Osteogenesis Imperfecta Murine: Interaction Between Type I Collagen Homotrimers. Journal of Molecular Biology, 2001, 309, 807-815.	4.2	22
75	Undulations Enhance the Effect of Helical Structure on DNA Interactions. Journal of Physical Chemistry B, 2010, 114, 11668-11680.	2.6	22
76	Temperature-induced complementarity as a mechanism for biomolecular assembly. Proteins: Structure, Function and Bioinformatics, 1994, 19, 73-76.	2.6	21
77	Helical Structure Determines Different Susceptibilities of dsDNA, dsRNA, and tsDNA to Counterion-Induced Condensation. Biophysical Journal, 2013, 104, 2031-2041.	0.5	19
78	COL1A1 C-propeptide mutations cause ER mislocalization of procollagen and impair C-terminal procollagen processing. Biochimica Et Biophysica Acta - Molecular Basis of Disease, 2019, 1865, 2210-2223.	3.8	18
79	Surface phase transitions and hydration forces. Journal of Chemical Physics, 1992, 97, 6809-6820.	3.0	17
80	Substitutions for arginine at position 780 in triple helical domain of the Î±1(I) chain alter folding of the type I procollagen molecule and cause osteogenesis imperfecta. PLoS ONE, 2018, 13, e0200264.	2.5	16
81	4PBA reduces growth deficiency in osteogenesis imperfecta by enhancing transition of hypertrophic chondrocytes to osteoblasts. JCI Insight, 2022, 7, .	5.0	16
82	Collagen Structure, Folding and Function. , 2014, , 71-84.		15
83	Makings of a brittle bone: Unexpected lessons from a low protein diet study of a mouse OI model. Matrix Biology, 2016, 52-54, 29-42.	3.6	15
84	Signatures of DNA flexibility, interactions and sequence-related structural variations in classical X-ray diffraction patterns. Nucleic Acids Research, 2011, 39, 7289-7299.	14.5	13
85	On the theory of electrostatic interaction of neutral lipid bilayers separated by thin water film. Journal of Chemical Physics, 1991, 95, 5224-5229.	3.0	12
86	Noncanonical ERâ€“Golgi trafficking and autophagy of endogenous procollagen in osteoblasts. Cellular and Molecular Life Sciences, 2021, 78, 8283-8300.	5.4	12
87	Collagen degradation by tumor-associated trypsins. Archives of Biochemistry and Biophysics, 2013, 535, 111-114.	3.0	11
88	Substitution of murine type I collagen A1 3-hydroxylation site alters matrix structure but does not recapitulate osteogenesis imperfecta bone dysplasia. Matrix Biology, 2020, 90, 20-39.	3.6	11
89	Deficient degradation of homotrimeric type I collagen, Î±1(I)3 glomerulopathy in oim mice. Molecular Genetics and Metabolism, 2011, 104, 373-382.	1.1	10
90	Pulse-chase analysis of procollagen biosynthesis by azidohomoalanine labeling. Connective Tissue Research, 2014, 55, 403-410.	2.3	10

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91	Localization of nonlinear waves in randomly inhomogeneous media. Physics Letters, Section A: General, Atomic and Solid State Physics, 1984, 105, 31-33.	2.1	9
92	Fluctuations and interactions of semi-flexible polyelectrolytes in columnar assemblies. Journal of Physics Condensed Matter, 2010, 22, 072202.	1.8	9
93	Haploinsufficiency for either one of the type-II regulatory subunits of protein kinase A improves the bone phenotype ofPrkar1a+/â^'mice. Human Molecular Genetics, 2015, 24, 6080-6092.	2.9	9
94	Chain-melting reentrant transition in bimolecular layers at large separations. Physical Review Letters, 1993, 70, 3623-3626.	7.8	7
95	Celecoxib treatment of fibrous dysplasia (FD) in a human FD cell line and FD-like lesions in mice with protein kinase A (PKA) defects. Molecular and Cellular Endocrinology, 2017, 439, 165-174.	3.2	5
96	The regulatory role of matrix proteins in mineralization of bone. , 2021, , 165-187.		2
97	Landau Theory of a System with Two Bilinearly Coupled Order Parameter sin External Field: Exact Mean Field Solution, Critical Properties and Isothermal Susceptibility. Zeitschrift Fur Naturforschung - Section A Journal of Physical Sciences, 1995, 50, 789-794.	1.5	0
98	Procollagen Trafficking and its Implications in Osteogenesis Imperfecta. Biology of Extracellular Matrix, 2021, , 23-53.	0.3	0