Gregory D Jay

List of Publications by Year
in descending order

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105 papers	5,334 citations	94433 37 h-index	91884 69 g-index
114 all docs	114 docs citations	114 times ranked	3421 citing authors

#	Article	IF	Citations
1	The secreted glycoprotein lubricin protects cartilage surfaces and inhibits synovial cell overgrowth. Journal of Clinical Investigation, 2005, 115, 622-631.	8.2	461
2	Adsorption, Lubrication, and Wear of Lubricin on Model Surfaces: Polymer Brush-Like Behavior of a Glycoprotein. Biophysical Journal, 2007, 92, 1693-1708.	0.5	273
3	The biology of Lubricin: Near frictionless joint motion. Matrix Biology, 2014, 39, 17-24.	3.6	237
4	Association between friction and wear in diarthrodial joints lacking lubricin. Arthritis and Rheumatism, 2007, 56, 3662-3669.	6.7	215
5	Homology of lubricin and superficial zone protein (SZP): Products of megakaryocyte stimulating factor (MSF) gene expression by human synovial fibroblasts and articular chondrocytes localized to chromosome 1q25. Journal of Orthopaedic Research, 2001, 19, 677-687.	2.3	214
6	Boundary lubrication by lubricin is mediated by O-linked beta(1-3)Gal-GalNAc oligosaccharides. Glycoconjugate Journal, 2001, 18, 807-815.	2.7	209
7	Role of lubricin and boundary lubrication in the prevention of chondrocyte apoptosis. Proceedings of the National Academy of Sciences of the United States of America, 2013, 110, 5852-5857.	7.1	187
8	Characterization of a bovine synovial fluid lubricating factor. I. Chemical, Surface activity and lubricating properties. Connective Tissue Research, 1992, 28, 71-88.	2.3	186
9	Synergistic Interactions between Grafted Hyaluronic Acid and Lubricin Provide Enhanced Wear Protection and Lubrication. Biomacromolecules, 2013, 14, 1669-1677.	5.4	133
10	Prevention of cartilage degeneration and restoration of chondroprotection by lubricin tribosupplementation in the rat following anterior cruciate ligament transection. Arthritis and Rheumatism, 2010, 62, 2382-2391.	6.7	126
11	Loss of cartilage structure, stiffness, and frictional properties in mice lacking PRG4. Arthritis and Rheumatism, 2010, 62, 1666-1674.	6.7	125
12	Comparison of the boundary-lubricating ability of bovine synovial fluid, lubricin, and Healon. , 1998, 40, 414-418.		122
13	Molecular Aspects of Boundary Lubrication by Human Lubricin:â€‰ Effect of Disulfide Bonds and Enzymatic Digestion. Langmuir, 2008, 24, 1495-1508.	3.5	120
14	Conformational Mechanics, Adsorption, and Normal Force Interactions of Lubricin and Hyaluronic Acid on Model Surfaces. Langmuir, 2008, 24, 1183-1193.	3.5	115
15	Friction force microscopy of lubricin and hyaluronic acid between hydrophobic and hydrophilic surfaces. Soft Matter, 2009, 5, 3438.	2.7	108
16	Lubricin/Proteoglycan 4 Binding to CD44 Receptor: A Mechanism of the Suppression of Proinflammatory Cytokineâ€“Induced Synoviocyte Proliferation by Lubricin. Arthritis and Rheumatology, 2015, 67, 1503-1513.	5.6	102
17	Coefficients of friction, lubricin, and cartilage damage in the anterior cruciate ligamentâ€deficient guinea pig knee. Journal of Orthopaedic Research, 2008, 26, 231-237.	2.3	99
18	Effects of Supplemental Intra-articular Lubricin and Hyaluronic Acid on the Progression of Posttraumatic Arthritis in the Anterior Cruciate Ligamentâ€“Deficient Rat Knee. American Journal of Sports Medicine, 2011, 39, 164-172.	4.2	95

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19	Reduced expression and proteolytic susceptibility of lubricin/superficial zone protein may explain early elevation in the coefficient of friction in the joints of rats with antigen-induced arthritis. Arthritis and Rheumatism, 2007, 56, 108-116.	6.7	90
20	The interaction of lubricin/proteoglycan 4 (PRG4) with toll-like receptors 2 and 4: an anti-inflammatory role of PRG4 in synovial fluid. Arthritis Research and Therapy, 2015, 17, 353.	3.5	90
21	Characterization of a bovine synovial fluid lubricating factor III. The interaction with hyaluronic acid. Connective Tissue Research, 1992, 28, 245-255.	2.3	77
22	Prevention of cartilage degeneration and gait asymmetry by lubricin tribosupplementation in the rat following anterior cruciate ligament transection. Arthritis and Rheumatism, 2012, 64, 1162-1171.	6.7	77
23	Expression and mapping of lubricin in canine flexor tendon. Journal of Orthopaedic Research, 2006, 24, 1861-1868.	2.3	76
24	Effects of a Lubricin-Containing Compound on the Results of Flexor Tendon Repair in a Canine Model in Vivo. Journal of Bone and Joint Surgery - Series A, 2010, 92, 1453-1461.	3.0	74
25	A Two-Week, Randomized, Double-masked Study to Evaluate Safety and Efficacy of Lubricin (150ÂÎ¼g/mL) Eye Drops Versus Sodium Hyaluronate (HA) 0.18% Eye Drops (VismedÂ®) in Patients with Moderate Dry Eye Disease. Ocular Surface, 2017, 15, 77-87.	4.4	73
26	Induced superficial chondrocyte death reduces catabolic cartilage damage in murine posttraumatic osteoarthritis. Journal of Clinical Investigation, 2016, 126, 2893-2902.	8.2	72
27	The autocrine role of proteoglycan-4 (PRG4) in modulating osteoarthritic synoviocyte proliferation and expression of matrix degrading enzymes. Arthritis Research and Therapy, 2017, 19, 89.	3.5	68
28	Non-Invasive Determination of Hemoglobin by Digital Photography of Palpebral Conjunctiva. Journal of Emergency Medicine, 2007, 33, 105-111.	0.7	62
29	Intra-articular Recombinant Human Proteoglycan 4 Mitigates Cartilage Damage After Destabilization of the Medial Meniscus in the Yucatan Minipig. American Journal of Sports Medicine, 2017, 45, 1512-1521.	4.2	55
30	Tendon fascicle gliding in wild type, heterozygous, and lubricin knockout mice. Journal of Orthopaedic Research, 2011, 29, 384-389.	2.3	54
31	Role of CD44 in Regulating TLR2 Activation of Human Macrophages and Downstream Expression of Proinflammatory Cytokines. Journal of Immunology, 2018, 200, 758-767.	0.8	53
32	Lubricating ability of aspirated synovial fluid from emergency department patients with knee joint synovitis. Journal of Rheumatology, 2004, 31, 557-64.	2.0	53
33	Lubricin reduces cartilage--cartilage integration. Biorheology, 2004, 41, 503-8.	0.4	49
34	Lubricin Surface Modification Improves Extrasynovial Tendon Gliding in a Canine Model in Vitro. Journal of Bone and Joint Surgery - Series A, 2008, 90, 129-135.	3.0	48
35	Liquid Crystals: Frontiers in Biomedical Applications. , 2007, , .		46
36	Full-Length Recombinant Human Proteoglycan 4 Interacts with Hyaluronan to Provide Cartilage Boundary Lubrication. Annals of Biomedical Engineering, 2016, 44, 1128-1137.	2.5	45

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37	Interaction of lubricin with type II collagen surfaces: Adsorption, friction, and normal forces. Journal of Biomechanics, 2014, 47, 659-666.	2.1	40
38	Recombinant human proteoglycan-4 reduces phagocytosis of urate crystals and downstream nuclear factor kappa B and inflammasome activation and production of cytokines and chemokines in human and murine macrophages. Arthritis Research and Therapy, 2018, 20, 192.	3.5	40
39	Lubricin surface modification improves tendon gliding after tendon repair in a canine model in vitro. Journal of Orthopaedic Research, 2009, 27, 257-263.	2.3	37
40	Degradation of proteoglycan 4/lubricin by cathepsin S: Potential mechanism for diminished ocular surface lubrication in SjÃ¶gren's syndrome. Experimental Eye Research, 2017, 161, 1-9.	2.6	37
41	Anti-Lubricin Monoclonal Antibodies Created Using Lubricin-Knockout Mice Immunodetect Lubricin in Several Species and in Patients with Healthy and Diseased Joints. PLoS ONE, 2015, 10, e0116237.	2.5	36
42	Photonicsâ€based In Vivo total hemoglobin monitoring and clinical relevance. Journal of Biophotonics, 2009, 2, 277-287.	2.3	34
43	Effects of molecular weight of grafted hyaluronic acid on wear initiation. Acta Biomaterialia, 2014, 10, 1817-1823.	8.3	34
44	Interactions between Lubricin and Hyaluronic Acid Synergistically Enhance Antiadhesive Properties. ACS Applied Materials & Interfaces, 2019, 11, 18090-18102.	8.0	33
45	Cyclic loading increases friction and changes cartilage surface integrity in lubricinâ€mutant mouse knees. Arthritis and Rheumatism, 2012, 64, 465-473.	6.7	32
46	Diffuse reflectance spectra of the palpebral conjunctiva and its utility as a noninvasive indicator of total hemoglobin. Journal of Biomedical Optics, 2006, 11, 014019.	2.6	30
47	Proteoglycan-4 regulates fibroblast to myofibroblast transition and expression of fibrotic genes in the synovium. Arthritis Research and Therapy, 2020, 22, 113.	3.5	29
48	Evaluation of Preâ€and Posttreatment Pulse Oximetry in Acute Childhood Asthma. Academic Emergency Medicine, 1997, 4, 114-117.	1.8	28
49	Friction-Induced Mitochondrial Dysregulation Contributes to Joint Deterioration in Prg4 Knockout Mice. International Journal of Molecular Sciences, 2017, 18, 1252.	4.1	28
50	Preventing Friction-induced Chondrocyte Apoptosis: Comparison of Human Synovial Fluid and Hylan G-F 20. Journal of Rheumatology, 2012, 39, 1473-1480.	2.0	27
51	Recombinant human PRG4 (rhPRG4) suppresses breast cancer cell invasion by inhibiting TGFÎ²-Hyaluronan-CD44 signalling pathway. PLoS ONE, 2019, 14, e0219697.	2.5	27
52	Lubricin Restoration in a Mouse Model of Congenital Deficiency. Arthritis and Rheumatology, 2015, 67, 3070-3081.	5.6	26
53	Characterization of a bovine synovial fluid lubricating factor. II. Comparison with purified ocular and salivary mucin. Connective Tissue Research, 1992, 28, 89-98.	2.3	25
54	cAMP attenuates TGF-Î²â€™s profibrotic responses in osteoarthritic synoviocytes: involvement of hyaluronan and PRG4. American Journal of Physiology - Cell Physiology, 2018, 315, C432-C443.	4.6	25

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55	Proteomics Analysis of Tears and Saliva From Sjogrenâ€™s Syndrome Patients. Frontiers in Pharmacology, 2021, 12, 787193.	3.5	23
56	Superficial zone cellularity is deficient in mice lacking lubricin: a stereoscopic analysis. Arthritis Research and Therapy, 2016, 18, 64.	3.5	22
57	Proteoglycan 4 (PRG4) expression and function in dry eye associated inflammation. Experimental Eye Research, 2021, 208, 108628.	2.6	22
58	Comparison of two methods for calculating the frictional properties of articular cartilage using a simple pendulum and intact mouse knee joints. Journal of Biomechanics, 2009, 42, 1996-1999.	2.1	20
59	Combined reflectance spectroscopy and stochastic modeling approach for noninvasive hemoglobin determination via palpebral conjunctiva. Physiological Reports, 2014, 2, e00192.	1.7	20
60	Recombinant human lubricin for prevention of postoperative intra-abdominal adhesions in a rat model. Journal of Surgical Research, 2017, 208, 20-25.	1.6	20
61	Probing the Molecular Interactions and Lubrication Mechanisms of Purified Full-Length Recombinant Human Proteoglycan 4 (rhPRG4) and Hyaluronic Acid (HA). Biomacromolecules, 2019, 20, 1056-1067.	5.4	20
62	Prediction of anemia and estimation of hemoglobin concentration using a smartphone camera. PLoS ONE, 2021, 16, e0253495.	2.5	20
63	The Effect of Lubricin on the Gliding Resistance of Mouse Intrasynovial Tendon. PLoS ONE, 2013, 8, e83836.	2.5	19
64	Proteoglycan-4 is an essential regulator of synovial macrophage polarization and inflammatory macrophage joint infiltration. Arthritis Research and Therapy, 2021, 23, 241.	3.5	18
65	Continuous Noninvasive Determination of Pulsus Paradoxus: A Pilot Study. Academic Emergency Medicine, 1995, 2, 894-900.	1.8	17
66	Effects of lubricant and autologous bone marrow stromal cell augmentation on immobilized flexor tendon repairs. Journal of Orthopaedic Research, 2016, 34, 154-160.	2.3	17
67	The mechanical properties of tail tendon fascicles from lubricin knockout, wild type and heterozygous mice. Journal of Structural Biology, 2011, 176, 41-45.	2.8	16
68	Absence of Proteoglycan 4 (Prg4) Leads to Increased Subchondral Bone Porosity Which Can Be Mitigated Through Intraâ€Articular Injection of PRG4. Journal of Orthopaedic Research, 2019, 37, 2077-2088.	2.3	16
69	Effects of concentration and structure on proteoglycan 4 rheology and interaction withÂhyaluronan. Biorheology, 2015, 51, 409-422.	0.4	14
70	Reduction of friction by recombinant human proteoglycan 4 in ILâ€1Î± stimulated bovine cartilage explants. Journal of Orthopaedic Research, 2017, 35, 580-589.	2.3	14
71	Two compartment pharmacokinetic model describes the intraâ€articular delivery and retention of rhprg4 following ACL transection in the Yucatan mini pig. Journal of Orthopaedic Research, 2019, 37, 386-396.	2.3	14
72	Cathepsin g Degrades Both Glycosylated and Unglycosylated Regions of Lubricin, a Synovial Mucin. Scientific Reports, 2020, 10, 4215.	3.3	14

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73	Arthroscopic irrigation of the bovine stifle joint increases cartilage surface friction and decreases superficial zone lubricin. Journal of Biomechanics, 2016, 49, 3106-3110.	2.1	13
74	Surface Modification with Chemically Modified Synovial Fluid for Flexor Tendon Reconstruction in a Canine Model in Vivo. Journal of Bone and Joint Surgery - Series A, 2015, 97, 972-978.	3.0	12
75	Proteoglycan 4 Reduces Neuroinflammation and Protects the Bloodâ€“Brain Barrier after Traumatic Brain Injury. Journal of Neurotrauma, 2021, 38, 385-398.	3.4	11
76	CPR effectiveness in microgravity: comparison of three positions and a mechanical device. Aviation, Space, and Environmental Medicine, 2003, 74, 1183-9.	0.5	11
77	Preclinical Animal Studies of Intravesical Recombinant Human Proteoglycan 4 as a Novel Potential Therapy for Diseases Resulting From Increased Bladder Permeability. Urology, 2018, 116, 230.e1-230.e7.	1.0	10
78	Recombinant Human Proteoglycan 4 Regulates Phagocytic Activation of Monocytes and Reduces IL-1Î² Secretion by Urate Crystal Stimulated Gout PBMCs. Frontiers in Immunology, 2021, 12, 771677.	4.8	10
79	Lubricin deficiency in the murine lumbar intervertebral disc results in elevated torsional apparent modulus. Journal of Biomechanics, 2015, 48, 2210-2213.	2.1	9
80	Lubricin as a Therapeutic and Potential Biomarker in Sepsis. Critical Care Clinics, 2020, 36, 55-67.	2.6	9
81	Proteoglycan-4 and hyaluronan composition in synovial fluid and serum from clinical equine subjects: relationship to cartilage boundary lubrication and viscosity of synovial fluid. Connective Tissue Research, 2021, 62, 369-380.	2.3	8
82	Decrease of core 2 O-glycans on synovial lubricin in osteoarthritis reduces galectin-3 mediated crosslinking. Journal of Biological Chemistry, 2020, 295, 16023-16036.	3.4	7
83	Monolithic microspectrometer using tunable ferroelectric liquid crystals. Applied Physics Letters, 2006, 89, 081105.	3.3	6
84	Efficient Detection of Severe Acute Respiratory SyndromeÂCoronavirus 2 (SARS-CoV-2) from Exhaled Breath. Journal of Molecular Diagnostics, 2021, 23, 1661-1670.	2.8	6
85	Titration of Parameters in Shared Ventilation With a Portable Ventilator. Respiratory Care, 2021, 66, 758-768.	1.6	5
86	Carboxyhemoglobin Toxicokinetics. Academic Emergency Medicine, 1999, 6, 766-768.	1.8	4
87	Recombinant Human Proteoglycan-4 Mediates Interleukin-6 Response in Both Human and Mouse Endothelial Cells Induced Into a Sepsis Phenotype. , 2020, 2, e0126.		4
88	The role of synovial fluid constituents in the lubrication of collagen-glycosaminoglycan scaffolds for cartilage repair. Journal of the Mechanical Behavior of Biomedical Materials, 2021, 118, 104445.	3.1	4
89	Positive Airway Pressure Support and Myocardial Ischemia. Academic Emergency Medicine, 1996, 3, 729-729.	1.8	3
90	P-28: A Novel Medical Diagnostic Tool for Non-Invasively Measuring Hemoglobin Utilizing Switchable H-PDLC Display Technology. Digest of Technical Papers SID International Symposium, 2005, 36, 364.	0.3	3

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91	Point-of-Care Noninvasive Hemoglobin Determination Using Fiber Optic Reflectance Spectroscopy. Annual International Conference of the IEEE Engineering in Medicine and Biology Society, 2007, 2007, 2932-5.	0.5	3
92	Ferroelectric Liquid Crystal Based Tunable Microspectrometer. Molecular Crystals and Liquid Crystals, 2007, 476, 61/[307]-76/[322].	0.9	3
93	Localization of full-length recombinant human proteoglycan-4 in commercial contact lenses using confocal microscopy. Journal of Biomaterials Science, Polymer Edition, 2020, 31, 110-122.	3.5	2
94	Quadruped Gait and Regulation of Apoptotic Factors in Tibiofemoral Joints following Intra-Articular rhPRG4 Injection in Prg4 Null Mice. International Journal of Molecular Sciences, 2022, 23, 4245.	4.1	2
95	070. Optimal Temperatures for Intravenous and Lavage Fluid in Hypothermia. Prehospital and Disaster Medicine, 1995, 10, S39-S40.	1.3	0
96	072. Comparison of Two-Person CPR with Bag-Valve-Mask Device (BVM) to One-Person CPR Using the Kendall CardioventÂ® (KCVÂ®) Device in an Intubated CPR Mannequin. Prehospital and Disaster Medicine, 1995, 10, S40-S40.	1.3	0
97	069. Use of Infrared Thermometry to Measure Lavage and Intravenous Fluid Temperature. Prehospital and Disaster Medicine, 1995, 10, S39-S39.	1.3	0
98	First Annual New England Regional SAEM Conferenceâ€"Scientific Presentation Titles. Academic Emergency Medicine, 1997, 4, 1162-1167.	1.8	0
99	Preventing bacterial adhesion and cellular encroachment on intraocular lenses with lubricin. , 2011, , .		0
100	Lubricin as a Novel Protein Coating to Prevent Bacterial Biofouling. Materials Research Society Symposia Proceedings, 2012, 1417, 1.	0.1	0
101	Lubricin as a Surface Treatment to Reduce Post-operative Biofouling and Infection. Materials Research Society Symposia Proceedings, 2012, 1486, 16.	0.1	0
102	Recombinant Human Proteoglycanâ€4 Regulates Phagocytic Activation of Monocytes and Reduces ILâ€1b Secretion by Urate Crystal Stimulated PBMCs. FASEB Journal, 2021, 35, .	0.5	0
103	Video Library of Objective Verified Simulated Chest Compression Performances (CIRRUS Research) Tj ETQq1 1 0.784314 rgBT /Overlo	1.2	0
104	The Effect of Intense Exercise on Equine Serum Proteoglycan-4/Lubricin. Frontiers in Veterinary Science, 2020, 7, 599287.	2.2	0
105	Current thinking on viscosupplementation in osteoarthritis. Medicine and Health, Rhode Island, 2004, 87, 213-5.	0.1	0