

Tannin A Schmidt

List of Publications by Year in descending order

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95
papers

4,862
citations

126907

33
h-index

110387

64
g-index

102
all docs

102
docs citations

102
times ranked

4083
citing authors

#	ARTICLE	IF	CITATIONS
1	TFOS DEWS II Tear Film Report. <i>Ocular Surface</i> , 2017, 15, 366-403.	4.4	610
2	Boundary lubrication of articular cartilage: Role of synovial fluid constituents. <i>Arthritis and Rheumatism</i> , 2007, 56, 882-891.	6.7	447
3	Tissue engineering of stratified articular cartilage from chondrocyte subpopulations. <i>Osteoarthritis and Cartilage</i> , 2003, 11, 595-602.	1.3	198
4	Viscoelastic Properties of Hyaluronan in Physiological Conditions. <i>F1000Research</i> , 2015, 4, 622.	1.6	198
5	The TFOS International Workshop on Contact Lens Discomfort: Report of the Contact Lens Materials, Design, and Care Subcommittee. , 2013, 54, TFOS37.		173
6	Effect of synovial fluid on boundary lubrication of articular cartilage. <i>Osteoarthritis and Cartilage</i> , 2007, 15, 35-47.	1.3	165
7	Articular Joint Lubricants during Osteoarthritis and Rheumatoid Arthritis Display Altered Levels and Molecular Species. <i>PLoS ONE</i> , 2015, 10, e0125192.	2.5	126
8	Lubricin/Proteoglycan 4 binds to and regulates the activity of Toll-Like Receptors In Vitro. <i>Scientific Reports</i> , 2016, 6, 18910.	3.3	112
9	Dynamic shear stimulation of bovine cartilage biosynthesis of proteoglycan 4. <i>Arthritis and Rheumatism</i> , 2006, 54, 1888-1896.	6.7	107
10	A model of synovial fluid lubricant composition in normal and injured joints. , 2007, 13, 26-39.		105
11	Lubricin/Proteoglycan 4 Binding to CD44 Receptor: A Mechanism of the Suppression of Proinflammatory Cytokine-Induced Synoviocyte Proliferation by Lubricin. <i>Arthritis and Rheumatology</i> , 2015, 67, 1503-1513.	5.6	102
12	Transcription, Translation, and Function of Lubricin, a Boundary Lubricant, at the Ocular Surface. <i>JAMA Ophthalmology</i> , 2013, 131, 766.	2.5	101
13	Diminished cartilage-lubricating ability of human osteoarthritic synovial fluid deficient in proteoglycan 4: Restoration through proteoglycan 4 supplementation. <i>Arthritis and Rheumatism</i> , 2012, 64, 3963-3971.	6.7	93
14	Proteoglycan 4 (PRG4) synthesis and immunolocalization in bovine meniscus. <i>Journal of Orthopaedic Research</i> , 2005, 23, 562-568.	2.3	92
15	The interaction of lubricin/proteoglycan 4 (PRG4) with toll-like receptors 2 and 4: an anti-inflammatory role of PRG4 in synovial fluid. <i>Arthritis Research and Therapy</i> , 2015, 17, 353.	3.5	90
16	Metabolic analysis of knee synovial fluid as a potential diagnostic approach for osteoarthritis. <i>Journal of Orthopaedic Research</i> , 2015, 33, 1631-1638.	2.3	80
17	Synthesis of proteoglycan 4 by chondrocyte subpopulations in cartilage explants, monolayer cultures, and resurfaced cartilage cultures. <i>Arthritis and Rheumatism</i> , 2004, 50, 2849-2857.	6.7	79
18	Differential regulation of proteoglycan 4 metabolism in cartilage by IL-1 α , IGF-I, and TGF- β 1. <i>Osteoarthritis and Cartilage</i> , 2008, 16, 90-97.	1.3	79

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19	Characterization of full-length recombinant human Proteoglycan 4 as an ocular surface boundary lubricant. <i>Experimental Eye Research</i> , 2014, 127, 14-19.	2.6	78
20	The effect of molecular weight on hyaluronan's cartilage boundary lubricating ability " alone and in combination with proteoglycan 4. <i>Osteoarthritis and Cartilage</i> , 2011, 19, 1356-1362.	1.3	77
21	Integrin-mediated adhesion of human articular chondrocytes to cartilage. <i>Arthritis and Rheumatism</i> , 2003, 48, 110-118.	6.7	73
22	A Two-Week, Randomized, Double-masked Study to Evaluate Safety and Efficacy of Lubricin (150µg/mL) Eye Drops Versus Sodium Hyaluronate (HA) 0.18% Eye Drops (Vismed®) in Patients with Moderate Dry Eye Disease. <i>Ocular Surface</i> , 2017, 15, 77-87.	4.4	73
23	Microneedle arrays for the treatment of chronic wounds. <i>Expert Opinion on Drug Delivery</i> , 2020, 17, 1767-1780.	5.0	70
24	Both Hyaluronan and Collagen Type II Keep Proteoglycan 4 (Lubricin) at the Cartilage Surface in a Condition That Provides Low Friction during Boundary Lubrication. <i>Langmuir</i> , 2014, 30, 14566-14572.	3.5	69
25	The autocrine role of proteoglycan-4 (PRG4) in modulating osteoarthritic synoviocyte proliferation and expression of matrix degrading enzymes. <i>Arthritis Research and Therapy</i> , 2017, 19, 89.	3.5	68
26	In vivo printing of growth factor-eluting adhesive scaffolds improves wound healing. <i>Bioactive Materials</i> , 2022, 8, 296-308.	15.6	66
27	Intra-articular Recombinant Human Proteoglycan 4 Mitigates Cartilage Damage After Destabilization of the Medial Meniscus in the Yucatan Minipig. <i>American Journal of Sports Medicine</i> , 2017, 45, 1512-1521.	4.2	55
28	Effects of equine joint injury on boundary lubrication of articular cartilage by synovial fluid: Role of hyaluronan. <i>Arthritis and Rheumatism</i> , 2012, 64, 2917-2926.	6.7	52
29	The impact of early intra-articular administration of interleukin-1 receptor antagonist on lubricin metabolism and cartilage degeneration in an anterior cruciate ligament transection model. <i>Osteoarthritis and Cartilage</i> , 2015, 23, 114-121.	1.3	51
30	Proteoglycan 4: From Mere Lubricant to Regulator of Tissue Homeostasis and Inflammation. <i>BioEssays</i> , 2019, 41, e1800166.	2.5	49
31	Disulfide-bonded multimers of proteoglycan 4 (PRG4) are present in normal synovial fluids. <i>Biochimica Et Biophysica Acta - General Subjects</i> , 2009, 1790, 375-384.	2.4	48
32	Full-Length Recombinant Human Proteoglycan 4 Interacts with Hyaluronan to Provide Cartilage Boundary Lubrication. <i>Annals of Biomedical Engineering</i> , 2016, 44, 1128-1137.	2.5	45
33	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. <i>Arthritis Research and Therapy</i> , 2018, 20, 192.	3.5	40
34	Rheological effects of macromolecular interactions in synovial fluid. <i>Biorheology</i> , 2016, 53, 49-67.	0.4	37
35	Degradation of proteoglycan 4/lubricin by cathepsin S: Potential mechanism for diminished ocular surface lubrication in Sjögren's syndrome. <i>Experimental Eye Research</i> , 2017, 161, 1-9.	2.6	37
36	Static and dynamic compression regulate cartilage metabolism of PRoteoGlycan 4 (PRG4). <i>Biorheology</i> , 2006, 43, 191-200.	0.4	37

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37	Molecular weight characterization of PRG4 proteins using multi-angle laser light scattering (MALLS). <i>Osteoarthritis and Cartilage</i> , 2013, 21, 498-504.	1.3	34
38	Interactions between Lubricin and Hyaluronic Acid Synergistically Enhance Antiadhesive Properties. <i>ACS Applied Materials & Interfaces</i> , 2019, 11, 18090-18102.	8.0	33
39	Targeted delivery of hyaluronic acid to the ocular surface by a polymer-peptide conjugate system for dry eye disease. <i>Acta Biomaterialia</i> , 2017, 55, 163-171.	8.3	32
40	Dose-Dependent and Synergistic Effects of Proteoglycan 4 on Boundary Lubrication at a Human Corneaâ€“Polydimethylsiloxane Biointerface. <i>Eye and Contact Lens</i> , 2012, 38, 27-35.	1.6	31
41	An in vitro study of cartilageâ€“meniscus tribology to understand the changes caused by a meniscus implant. <i>Colloids and Surfaces B: Biointerfaces</i> , 2017, 155, 294-303.	5.0	31
42	Proteoglycan-4 regulates fibroblast to myofibroblast transition and expression of fibrotic genes in the synovium. <i>Arthritis Research and Therapy</i> , 2020, 22, 113.	3.5	29
43	Cartilage boundary lubrication synergism is mediated by hyaluronan concentration and PRG4 concentration and structure. <i>BMC Musculoskeletal Disorders</i> , 2015, 16, 386.	1.9	28
44	Mechanical Fatigue of Bovine Cortical Bone Using Ground Reaction Force Waveforms in Running. <i>Journal of Biomechanical Engineering</i> , 2018, 140, .	1.3	28
45	Surface-Functionalized Model Contact Lenses with a Bioinspired Proteoglycan 4 (PRG4)-Grafted Layer. <i>ACS Applied Materials & Interfaces</i> , 2018, 10, 30125-30136.	8.0	28
46	Proteoglycan 4 and hyaluronan as boundary lubricants for model contact lens hydrogels. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2018, 106, 1329-1338.	3.4	27
47	Recombinant human PRG4 (rhPRG4) suppresses breast cancer cell invasion by inhibiting TGF β ² -Hyaluronan-CD44 signalling pathway. <i>PLoS ONE</i> , 2019, 14, e0219697.	2.5	27
48	Biochemical analyses of human osteoarthritic and periprosthetic synovial fluid. <i>Proceedings of the Institution of Mechanical Engineers, Part H: Journal of Engineering in Medicine</i> , 2014, 228, 127-139.	1.8	26
49	Human pericardial proteoglycan 4 (lubricin): Implications for postcardiotomy intrathoracic adhesion formation. <i>Journal of Thoracic and Cardiovascular Surgery</i> , 2018, 156, 1598-1608.e1.	0.8	24
50	Non-Newtonian rheology in suspension cell cultures significantly impacts bioreactor shear stress quantification. <i>Biotechnology and Bioengineering</i> , 2018, 115, 2101-2113.	3.3	23
51	Proteomics Analysis of Tears and Saliva From Sjogrenâ€™s Syndrome Patients. <i>Frontiers in Pharmacology</i> , 2021, 12, 787193.	3.5	23
52	Proteoglycan 4 (PRG4) expression and function in dry eye associated inflammation. <i>Experimental Eye Research</i> , 2021, 208, 108628.	2.6	22
53	Recombinant human lubricin for prevention of postoperative intra-abdominal adhesions in a rat model. <i>Journal of Surgical Research</i> , 2017, 208, 20-25.	1.6	20
54	Probing the Molecular Interactions and Lubrication Mechanisms of Purified Full-Length Recombinant Human Proteoglycan 4 (rhPRG4) and Hyaluronic Acid (HA). <i>Biomacromolecules</i> , 2019, 20, 1056-1067.	5.4	20

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55	Effect of disulfide bonding and multimerization on proteoglycan 4's cartilage boundary lubricating ability and adsorption. <i>Connective Tissue Research</i> , 2016, 57, 113-123.	2.3	19
56	Proteoglycan-4 is an essential regulator of synovial macrophage polarization and inflammatory macrophage joint infiltration. <i>Arthritis Research and Therapy</i> , 2021, 23, 241.	3.5	18
57	Characterization of proteoglycan 4 and hyaluronan composition and lubrication function of ovine synovial fluid following knee surgery. <i>Journal of Orthopaedic Research</i> , 2013, 31, 1549-1554.	2.3	17
58	Role of hydrophobicity on the adsorption of synovial fluid proteins and biolubrication of polycarbonate urethanes: Materials for permanent meniscus implants. <i>Materials and Design</i> , 2015, 83, 514-521.	7.0	17
59	Hyaluronan incorporation into model contact lens hydrogels as a built-in lubricant: Effect of hydrogel composition and proteoglycan 4 as a lubricant in solution. <i>Journal of Biomedical Materials Research - Part B Applied Biomaterials</i> , 2018, 106, 1818-1826.	3.4	17
60	Cartilage boundary lubrication of ovine synovial fluid following anterior cruciate ligament transection: a longitudinal study. <i>Osteoarthritis and Cartilage</i> , 2015, 23, 640-647.	1.3	16
61	Cellular electrophysiological principles that modulate secretion from synovial fibroblasts. <i>Journal of Physiology</i> , 2017, 595, 635-645.	2.9	16
62	Absence of Proteoglycan 4 (<i>PrG4</i>) Leads to Increased Subchondral Bone Porosity Which Can Be Mitigated Through Intra-articular Injection of PRG4. <i>Journal of Orthopaedic Research</i> , 2019, 37, 2077-2088.	2.3	16
63	Investigating the Synergistic Interactions of Surface Immobilized and Free Natural Ocular Lubricants for Contact Lens Applications: A Comparative Study between Hyaluronic Acid and Proteoglycan 4 (Lubricin). <i>Langmuir</i> , 2021, 37, 1062-1072.	3.5	15
64	Effects of concentration and structure on proteoglycan 4 rheology and interaction with hyaluronan. <i>Biorheology</i> , 2015, 51, 409-422.	0.4	14
65	Reduction of friction by recombinant human proteoglycan 4 in IL-1 β stimulated bovine cartilage explants. <i>Journal of Orthopaedic Research</i> , 2017, 35, 580-589.	2.3	14
66	Two compartment pharmacokinetic model describes the intra-articular delivery and retention of rhprg4 following ACL transection in the Yucatan mini pig. <i>Journal of Orthopaedic Research</i> , 2019, 37, 386-396.	2.3	14
67	Proteoglycan-4 is correlated with longer survival in HCC patients and enhances sorafenib and regorafenib effectiveness via CD44 in vitro. <i>Cell Death and Disease</i> , 2020, 11, 984.	6.3	14
68	Cathepsin g Degrades Both Glycosylated and Unglycosylated Regions of Lubricin, a Synovial Mucin. <i>Scientific Reports</i> , 2020, 10, 4215.	3.3	14
69	Adherent agarose mold cultures: An in vitro platform for multi-factorial assessment of passaged chondrocyte redifferentiation. <i>Journal of Orthopaedic Research</i> , 2018, 36, 2392-2405.	2.3	11
70	Effect of counterface on cartilage boundary lubricating ability by proteoglycan 4 and hyaluronan: Cartilage-glass versus cartilage-cartilage. <i>Journal of Orthopaedic Research</i> , 2018, 36, 2923-2931.	2.3	11
71	Proteoglycan 4 Reduces Neuroinflammation and Protects the Blood-Brain Barrier after Traumatic Brain Injury. <i>Journal of Neurotrauma</i> , 2021, 38, 385-398.	3.4	11
72	Cartilage boundary lubricating ability of aldehyde modified proteoglycan 4 (PRG4-CHO). <i>Osteoarthritis and Cartilage</i> , 2013, 21, 186-189.	1.3	10

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73	Preclinical Animal Studies of Intravesical Recombinant Human Proteoglycan 4 as a Novel Potential Therapy for Diseases Resulting From Increased Bladder Permeability. <i>Urology</i> , 2018, 116, 230.e1-230.e7.	1.0	10
74	Effects of acidosis on the structure, composition, and function of adult murine femurs. <i>Acta Biomaterialia</i> , 2021, 121, 484-496.	8.3	10
75	Recombinant Human Proteoglycan 4 Regulates Phagocytic Activation of Monocytes and Reduces IL-1 β Secretion by Urate Crystal Stimulated Gout PBMCs. <i>Frontiers in Immunology</i> , 2021, 12, 771677.	4.8	10
76	A competitive alphascreen assay for detection of hyaluronan. <i>Glycobiology</i> , 2018, 28, 137-147.	2.5	9
77	Lubricating lipids in hydrogels. <i>Science</i> , 2020, 370, 288-289.	12.6	8
78	Proteoglycan-4 and hyaluronan composition in synovial fluid and serum from clinical equine subjects: relationship to cartilage boundary lubrication and viscosity of synovial fluid. <i>Connective Tissue Research</i> , 2021, 62, 369-380.	2.3	8
79	Proteoglycan 4 reduces friction more than other synovial fluid components for both cartilage-cartilage and cartilage-metal articulation. <i>Osteoarthritis and Cartilage</i> , 2021, 29, 894-904.	1.3	8
80	Proteoglycan 4 (PRG4) treatment enhances wound closure and tissue regeneration. <i>Npj Regenerative Medicine</i> , 2022, 7, .	5.2	8
81	Decrease of core 2 O-glycans on synovial lubricin in osteoarthritis reduces galectin-3 mediated crosslinking. <i>Journal of Biological Chemistry</i> , 2020, 295, 16023-16036.	3.4	7
82	Addition of High Molecular Weight Hyaluronic Acid to Fibroblast-Like Stromal Cells Modulates Endogenous Hyaluronic Acid Metabolism and Enhances Proteolytic Processing and Secretion of Versican. <i>Cells</i> , 2020, 9, 1681.	4.1	6
83	Synovial and cartilage responsiveness to perioperative hyaluronic acid±dexamethasone administration following a limited injury to the rabbit stifle joint. <i>Journal of Orthopaedic Research</i> , 2022, 40, 838-845.	2.3	6
84	Versican is differentially regulated in the adventitial and medial layers of human vein grafts. <i>PLoS ONE</i> , 2018, 13, e0204045.	2.5	4
85	Automated Indentation Demonstrates Structural Stiffness of Femoral Articular Cartilage and Temporomandibular Joint Mandibular Condylar Cartilage Is Altered in FgF2KO Mice. <i>Cartilage</i> , 2021, 13, 1513S-1521S.	2.7	4
86	Recombinant Human Proteoglycan-4 Mediates Interleukin-6 Response in Both Human and Mouse Endothelial Cells Induced Into a Sepsis Phenotype. , 2020, 2, e0126.		4
87	The role of synovial fluid constituents in the lubrication of collagen-glycosaminoglycan scaffolds for cartilage repair. <i>Journal of the Mechanical Behavior of Biomedical Materials</i> , 2021, 118, 104445.	3.1	4
88	Investigating the effect of proteoglycan 4 on hyaluronan solution properties using confocal fluorescence recovery after photobleaching. <i>BMC Musculoskeletal Disorders</i> , 2019, 20, 93.	1.9	3
89	Inhibitory Effects of PRG4 on Migration and Proliferation of Human Venous Cells. <i>Journal of Surgical Research</i> , 2020, 253, 53-62.	1.6	3
90	Proteoglycan 4 is present within the dura mater and produced by mesenchymal progenitor cells. <i>Cell and Tissue Research</i> , 2022, 389, 483-499.	2.9	3

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91	Lubricin/proteoglycan 4 detected in vocal folds of humans and five other mammals. <i>Laryngoscope</i> , 2019, 129, E229-E237.	2.0	2
92	Localization of full-length recombinant human proteoglycan-4 in commercial contact lenses using confocal microscopy. <i>Journal of Biomaterials Science, Polymer Edition</i> , 2020, 31, 110-122.	3.5	2
93	Quadruped Gait and Regulation of Apoptotic Factors in Tibiofemoral Joints following Intra-Articular rhPRG4 Injection in Prg4 Null Mice. <i>International Journal of Molecular Sciences</i> , 2022, 23, 4245.	4.1	2
94	Novel Boundary Lubrication Mechanisms from Molecular Pillows of Lubricin Brush-Coated Graphene Oxide Nanosheets. <i>Langmuir</i> , 2022, 38, 5351-5360.	3.5	2
95	The Effect of Intense Exercise on Equine Serum Proteoglycan-4/Lubricin. <i>Frontiers in Veterinary Science</i> , 2020, 7, 599287.	2.2	0