

Vijay Krishna Raghunathan

List of Publications by Year in descending order

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69
papers

2,253
citations

304368

22
h-index

301761

39
g-index

72
all docs

72
docs citations

72
times ranked

2810
citing authors

#	ARTICLE	IF	CITATIONS
1	Consensus recommendations for trabecular meshwork cell isolation, characterization and culture. Experimental Eye Research, 2018, 171, 164-173.	1.2	221
2	Dexamethasone Stiffens Trabecular Meshwork, Trabecular Meshwork Cells, and Matrix. , 2015, 56, 4447.		132
3	Elastic modulus and collagen organization of the rabbit cornea: Epithelium to endothelium. Acta Biomaterialia, 2014, 10, 785-791.	4.1	96
4	Role of Substratum Stiffness in Modulating Genes Associated with Extracellular Matrix and Mechanotransducers YAP and TAZ. , 2013, 54, 378.		92
5	Normal and glaucomatous outflow regulation. Progress in Retinal and Eye Research, 2021, 82, 100897.	7.3	76
6	Characterizing the Effects of Heparin Gel Stiffness on Function of Primary Hepatocytes. Tissue Engineering - Part A, 2013, 19, 2655-2663.	1.6	74
7	Influence of particle size and reactive oxygen species on cobalt chrome nanoparticle-mediated genotoxicity. Biomaterials, 2013, 34, 3559-3570.	5.7	72
8	Tissue and cellular biomechanics during corneal wound injury and repair. Acta Biomaterialia, 2017, 58, 291-301.	4.1	71
9	Early redox activities modulate Xenopus tail regeneration. Nature Communications, 2018, 9, 4296.	5.8	56
10	Automated AFM force curve analysis for determining elastic modulus of biomaterials and biological samples. Journal of the Mechanical Behavior of Biomedical Materials, 2014, 37, 209-218.	1.5	54
11	Biomechanical Rigidity and Quantitative Proteomics Analysis of Segmental Regions of the Trabecular Meshwork at Physiologic and Elevated Pressures. , 2018, 59, 246.		54
12	The intrinsic stiffness of human trabecular meshwork cells increases with senescence. Oncotarget, 2015, 6, 15362-15374.	0.8	54
13	Glaucomatous cell derived matrices differentially modulate non-glaucomatous trabecular meshwork cellular behavior. Acta Biomaterialia, 2018, 71, 444-459.	4.1	51
14	Full-thickness splinted skin wound healing models in db/db and heterozygous mice: Implications for wound healing impairment. Wound Repair and Regeneration, 2014, 22, 368-380.	1.5	48
15	ATF4 leads to glaucoma by promoting protein synthesis and ER client protein load. Nature Communications, 2020, 11, 5594.	5.8	47
16	Topographic Modulation of the Orientation and Shape of Cell Nuclei and Their Influence on the Measured Elastic Modulus of Epithelial Cells. Biophysical Journal, 2011, 101, 2139-2146.	0.2	46
17	Substratum Compliance Modulates Corneal Fibroblast to Myofibroblast Transformation. , 2013, 54, 5901.		46
18	Wnt inhibition induces persistent increases in intrinsic stiffness of human trabecular meshwork cells. Experimental Eye Research, 2015, 132, 174-178.	1.2	46

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19	A Comparative Study of Vertebrate Corneal Structure: The Evolution of a Refractive Lens. , 2015, 56, 2764.		40
20	PDGF-BB Does Not Accelerate Healing in Diabetic Mice with Splinted Skin Wounds. PLoS ONE, 2014, 9, e104447.	1.1	39
21	Biomechanical relationships between the corneal endothelium and Descemet's membrane. Experimental Eye Research, 2016, 152, 57-70.	1.2	38
22	Involvement of YAP, TAZ and HSP90 in Contact Guidance and Intercellular Junction Formation in Corneal Epithelial Cells. PLoS ONE, 2014, 9, e109811.	1.1	37
23	Human Trabecular Meshwork Cells Exhibit Several Characteristics of, but Are Distinct from, Adipose-Derived Mesenchymal Stem Cells. Journal of Ocular Pharmacology and Therapeutics, 2014, 30, 254-266.	0.6	33
24	Wnt Activation After Inhibition Restores Trabecular Meshwork Cells Toward a Normal Phenotype. , 2020, 61, 30.		33
25	Effect of Stratification on Surface Properties of Corneal Epithelial Cells. , 2015, 56, 8340.		31
26	YAP and TAZ are distinct effectors of corneal myofibroblast transformation. Experimental Eye Research, 2019, 180, 102-109.	1.2	31
27	Impact of Nanotopography, Heparin Hydrogel Microstructures, and Encapsulated Fibroblasts on Phenotype of Primary Hepatocytes. ACS Applied Materials & Interfaces, 2015, 7, 12299-12308.	4.0	29
28	Crosslinked Extracellular Matrix Stiffens Human Trabecular Meshwork Cells Via Dysregulating β -catenin and YAP/TAZ Signaling Pathways. , 2020, 61, 41.		29
29	Robust and artifact-free mounting of tissue samples for atomic force microscopy. BioTechniques, 2014, 56, 40-42.	0.8	27
30	Lysophosphatidic Acid and IL-6 Trans-signaling Interact via YAP/TAZ and STAT3 Signaling Pathways in Human Trabecular Meshwork Cells. , 2020, 61, 29.		26
31	Extracellular Matrix Stiffness and TGF β 2 Regulate YAP/TAZ Activity in Human Trabecular Meshwork Cells. Frontiers in Cell and Developmental Biology, 2022, 10, 844342.	1.8	25
32	Influence of Extracellular Matrix Proteins and Substratum Topography on Corneal Epithelial Cell Alignment and Migration. Tissue Engineering - Part A, 2013, 19, 1713-1722.	1.6	24
33	Transforming Growth Factor Beta 3 Modifies Mechanics and Composition of Extracellular Matrix Deposited by Human Trabecular Meshwork Cells. ACS Biomaterials Science and Engineering, 2015, 1, 110-118.	2.6	23
34	Biomimetic stochastic topography and electric fields synergistically enhance directional migration of corneal epithelial cells in a MMP-3-dependent manner. Acta Biomaterialia, 2015, 12, 102-112.	4.1	23
35	Species variation and spatial differences in mucin expression from corneal epithelial cells. Experimental Eye Research, 2016, 152, 43-48.	1.2	23
36	Nuclear and cellular alignment of primary corneal epithelial cells on topography. Journal of Biomedical Materials Research - Part A, 2013, 101A, 1069-1079.	2.1	22

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37	Sensing Conductive Hydrogels for Rapid Detection of Cytokines in Blood. Advanced Healthcare Materials, 2016, 5, 659-664.	3.9	22
38	Real-time physiological measurements of oxygen using a non-invasive self-referencing optical fiber microsensor. Nature Protocols, 2020, 15, 207-235.	5.5	20
39	A Cell Culture Substrate with Biologically Relevant Size-Scale Topography and Compliance of the Basement Membrane. Langmuir, 2014, 30, 2101-2108.	1.6	19
40	Latrunculin B and substratum stiffness regulate corneal fibroblast to myofibroblast transformation. Experimental Eye Research, 2018, 170, 101-107.	1.2	19
41	Biomechanical changes to Descemet's membrane precede endothelial cell loss in an early-onset murine model of Fuchs endothelial corneal dystrophy. Experimental Eye Research, 2019, 180, 18-22.	1.2	19
42	Elevated pressure influences relative distribution of segmental regions of the trabecular meshwork. Experimental Eye Research, 2020, 190, 107888.	1.2	19
43	Dexamethasone and Glucocorticoid-Induced Matrix Temporally Modulate Key Integrins, Caveolins, Contractility, and Stiffness in Human Trabecular Meshwork Cells. , 2020, 61, 16.		19
44	Focal adhesion kinase knockdown modulates the response of human corneal epithelial cells to topographic cues. Acta Biomaterialia, 2012, 8, 4285-4294.	4.1	18
45	Glucocorticoid-induced cell-derived matrix modulates transforming growth factor β 2 signaling in human trabecular meshwork cells. Scientific Reports, 2020, 10, 15641.	1.6	18
46	The Canonical Wnt Signaling Pathway Inhibits the Glucocorticoid Receptor Signaling Pathway in the Trabecular Meshwork. American Journal of Pathology, 2021, 191, 1020-1035.	1.9	18
47	Comparative chronic <i>in vitro</i> toxicity of hexavalent chromium to osteoblasts and monocytes. Journal of Biomedical Materials Research - Part A, 2009, 88A, 543-550.	2.1	16
48	Biomechanical, ultrastructural, and electrophysiological characterization of the non-human primate experimental glaucoma model. Scientific Reports, 2017, 7, 14329.	1.6	16
49	Generating cell-derived matrices from human trabecular meshwork cell cultures for mechanistic studies. Methods in Cell Biology, 2020, 156, 271-307.	0.5	16
50	Animal models of corneal endothelial dysfunction to facilitate development of novel therapies. Annals of Translational Medicine, 2021, 9, 1271-1271.	0.7	16
51	Response to chronic exposure to hexavalent chromium in human monocytes. Toxicology in Vitro, 2009, 23, 647-652.	1.1	14
52	Development of an <i>in vitro</i> model to study the biological effects of blinking. Ocular Surface, 2018, 16, 226-234.	2.2	12
53	Isolation and Characterization of primary human trabecular meshwork cells from segmental flow regions: New tools for understanding segmental flow. Experimental Eye Research, 2020, 197, 108046.	1.2	11
54	Ocular phenotypic consequences of a single copy deletion of the gene () in mice. Molecular Vision, 2019, 25, 129-142.	1.1	10

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55	Stromal Collagen Arrangement Correlates with Stiffness of the Canine Cornea. Bioengineering, 2020, 7, 4.	1.6	9
56	Metallic Engineered Nanomaterials and Ocular Toxicity: A Current Perspective. Pharmaceutics, 2022, 14, 981.	2.0	9
57	ASSESSMENT OF PLATELET-DERIVED GROWTH FACTOR USING A SPLINTED FULL THICKNESS DERMAL WOUND MODEL IN BEARDED DRAGONS (POGONA VITTICEPS). Journal of Zoo and Wildlife Medicine, 2014, 45, 866-874.	0.3	8
58	Epidermal Growth Factorâ€“Functionalized Polymeric Multilayer Films: Interplay between Spatial Location and Bioavailability of EGF. Journal of Investigative Dermatology, 2014, 134, 1757-1760.	0.3	8
59	Involvement of reduced glutathione and glutathione reductase in the chronic toxicity of hexavalent chromium to monocytes in vitro. Toxicology, 2007, 231, 105-106.	2.0	7
60	Changes in protein expression associated with chronic <i>in vitro</i> exposure of hexavalent chromium to osteoblasts and monocytes: A proteomic approach. Journal of Biomedical Materials Research - Part A, 2010, 92A, 615-625.	2.1	7
61	Organic Semiconductor Nanotubes for Electrochemical Devices. Advanced Functional Materials, 2021, 31, 2105358.	7.8	7
62	An ex vivo model of human corneal rim perfusion organ culture. Experimental Eye Research, 2022, 214, 108891.	1.2	5
63	Intrastromal Injection of Hyaluronidase Alters the Structural and Biomechanical Properties of the Corneal Stroma. Translational Vision Science and Technology, 2020, 9, 21.	1.1	4
64	Differential effects of Hsp90 inhibition on corneal cells in vitro and in vivo. Experimental Eye Research, 2021, 202, 108362.	1.2	4
65	Endogenous expression of Notch pathway molecules in human trabecular meshwork cells. Experimental Eye Research, 2022, 216, 108935.	1.2	4
66	Cross-linked actin networks (CLANs) affect stiffness and/or actin dynamics in transgenic transformed and primary human trabecular meshwork cells. Experimental Eye Research, 2022, 220, 109097.	1.2	4
67	Photopatternable and photoactive hydrogel for on-demand generation of hydrogen peroxide in cell culture. Biomaterials, 2014, 35, 1762-1770.	5.7	3
68	Changing the Wound: Covalent Immobilization of the Epidermal Growth Factor. ACS Biomaterials Science and Engineering, 2021, 7, 2649-2660.	2.6	2
69	Biomechanical Properties of the Trabecular Meshwork in Aqueous Humor Outflow Resistance. , 2021, , 147-167.		1