Arul Jayaraman

List of Publications by Year
in descending order

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111 papers	6,149 citations	87888 38 h-index	74163 75 g-index
115 all docs	115 docs citations	115 times ranked	7608 citing authors

#	Article	IF	Citations
1	Single-cell RNA Sequencing Reveals How the Aryl Hydrocarbon Receptor Shapes Cellular Differentiation Potency in the Mouse Colon. Cancer Prevention Research, 2022, 15, 17-28.	1.5	6
2	Loss of aryl hydrocarbon receptor suppresses the response of colonic epithelial cells to IL22 signaling by upregulating SOCS3. American Journal of Physiology - Renal Physiology, 2022, 322, G93-G106.	3.4	15
3	Metabolomics of Acute vs. Chronic Spinach Intake in an Apcâ€“Mutant Genetic Background: Linoleate and Butanoate Metabolites Targeting HDAC Activity and IFNâ€“Î³ Signaling. Cells, 2022, 11, 573.	4.1	3
4	Novel Role of Ghrelin Receptor in Gut Dysbiosis and Experimental Colitis in Aging. International Journal of Molecular Sciences, 2022, 23, 2219.	4.1	11
5	3,3â€²-Diindolylmethane and 1,4-dihydroxy-2-naphthoic acid prevent chronic mild stress induced depressive-like behaviors in female mice. Journal of Affective Disorders, 2022, 309, 201-210.	4.1	5
6	Macrophage Polarization in Atherosclerosis. Genes, 2022, 13, 756.	2.4	35
7	Identification of Gut Bacterial Enzymes for Keto-Reductive Metabolism of Xenobiotics. ACS Chemical Biology, 2022, 17, 1665-1671.	3.4	8
8	Polyphosphazenes enable durable, hemocompatible, highly efficient antibacterial coatings. Biomaterials, 2021, 268, 120586.	11.4	26
9	Hydroxylated Chalcones as Aryl Hydrocarbon Receptor Agonists: Structure-Activity Effects. Toxicological Sciences, 2021, 180, 148-159.	3.1	2
10	Dietary spinach reshapes the gut microbiome in an Apc-mutant genetic background: mechanistic insights from integrated multi-omics. Gut Microbes, 2021, 13, 1972756.	9.8	15
11	Flavonoids: structureâ€“function and mechanisms of action and opportunities for drug development. Toxicological Research, 2021, 37, 147-162.	2.1	44
12	Loss of Aryl Hydrocarbon Receptor Promotes Colon Tumorigenesis in ApcS580/+; KrasG12D/+ Mice. Molecular Cancer Research, 2021, 19, 771-783.	3.4	26
13	Microbiota-Mediated Immune Regulation in Atherosclerosis. Molecules, 2021, 26, 179.	3.8	13
14	A Comprehensive High-Efficiency Protocol for Isolation, Culture, Polarization, and Glycolytic Characterization of Bone Marrow-Derived Macrophages. Journal of Visualized Experiments, 2021, , .	0.3	5
15	Age-dependent remodeling of gut microbiome and host serum metabolome in mice. Aging, 2021, 13, 6330-6345.	3.1	35
16	Engineering Selectively Targeting Antimicrobial Peptides. Annual Review of Biomedical Engineering, 2021, 23, 339-357.	12.3	31
17	A Hybrid Mechanistic Data-Driven Approach for Modeling Uncertain Intracellular Signaling Pathways. , 2021, , .		2
18	Role of the Aryl Hydrocarbon Receptor (AhR) in Mediating the Effects of Coffee in the Colon. Molecular Nutrition and Food Research, 2021, 65, e2100539.	3.3	10

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19	Common Metabolites in Two Different Hypertensive Mouse Models: A Serum and Urine Metabolome Study. Biomolecules, 2021, 11, 1387.	4.0	4
20	Dietâ€“Hostâ€“Microbiota Interactions Shape Aryl Hydrocarbon Receptor Ligand Production to Modulate Intestinal Homeostasis. Annual Review of Nutrition, 2021, 41, 455-478.	10.1	23
21	Effects of high-fat diet and intestinal aryl hydrocarbon receptor deletion on colon carcinogenesis. American Journal of Physiology - Renal Physiology, 2020, 318, G451-G463.	3.4	23
22	Molecular Mechanism for Attractant Signaling to DHMA by E.Âcoli Tsr. Biophysical Journal, 2020, 118, 492-504.	0.5	12
23	Loss of aryl hydrocarbon receptor potentiates FoxM1 signaling to enhance selfâ€renewal of colonic stem and progenitor cells. EMBO Journal, 2020, 39, e104319.	7.8	30
24	Modeling inter-kingdom regulation of inflammatory signaling in human intestinal epithelial cells. Computers and Chemical Engineering, 2020, 140, 106954.	3.8	1
25	Emerging computational tools and models for studying gut microbiota composition and function. Current Opinion in Biotechnology, 2020, 66, 301-311.	6.6	9
26	Effect of diet and intestinal AhR expression on fecal microbiome and metabolomic profiles. Microbial Cell Factories, 2020, 19, 219.	4.0	22
27	Derivation of a Dynamic Model for Palmitate-induced NFÎºB Signaling Pathway through Systems Biology Approach. , 2020, , .		0
28	A High Fat/High Sugar Diet Alters the Gastrointestinal Metabolome in a Sex Dependent Manner. Metabolites, 2020, 10, 421.	2.9	4
29	Aryl Hydrocarbon Receptor (AHR) Ligands as Selective AHR Modulators (SAhRMs). International Journal of Molecular Sciences, 2020, 21, 6654.	4.1	69
30	Ah receptor ligands and their impacts on gut resilience: structureâ€“activity effects. Critical Reviews in Toxicology, 2020, 50, 463-473.	3.9	18
31	Biphasic chemotaxis of Escherichia coli to the microbiota metabolite indole. Proceedings of the National Academy of Sciences of the United States of America, 2020, 117, 6114-6120.	7.1	42
32	Identification of cellâ€toâ€cell heterogeneity through systems engineering approaches. AICHE Journal, 2020, 66, e16925.	3.6	18
33	Biological Filtering and Substrate Promiscuity Prediction for Annotating Untargeted Metabolomics. Metabolites, 2020, 10, 160.	2.9	14
34	Targeting the Aryl Hydrocarbon Receptor in Stem Cells to Improve the Use of Food as Medicine. Current Stem Cell Reports, 2020, 6, 109-118.	1.6	5
35	Dopamine is an aryl hydrocarbon receptor agonist. Biochemical Journal, 2020, 477, 3899-3910.	3.7	16
36	Development of a hybrid model for a partially known intracellular signaling pathway through correction term estimation and neural network modeling. PLoS Computational Biology, 2020, 16, e1008472.	3.2	57

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37	Emerging molecular techniques for studying microbial community composition and function in microbiologically influenced corrosion. International Biodeterioration and Biodegradation, 2019, 144, 104722.	3.9	15
38	A non-beta-lactam antibiotic inhibitor for enterohemorrhagic Escherichia coli O104:H4. Journal of Molecular Medicine, 2019, 97, 1285-1297.	3.9	6
39	Isoflavones as Ah Receptor Agonists in Colon-Derived Cell Lines: Structureâ€“Activity Relationships. Chemical Research in Toxicology, 2019, 32, 2353-2364.	3.3	25
40	Identification of a timeâ€varying intracellular signalling model through data clustering and parameter selection: application to NFâ€•B signalling pathway induced by LPS in the presence of BFA. IET Systems Biology, 2019, 13, 169-179.	1.5	18
41	Interactions between gut microbiota and non-alcoholic liver disease: The role of microbiota-derived metabolites. Pharmacological Research, 2019, 141, 521-529.	7.1	78
42	Interactions between gut microbiota and non-alcoholic liver disease: The role of microbiota-derived metabolites. Pharmacological Research, 2019, 142, 314.	7.1	10
43	Environmental Chemical Diethylhexyl Phthalate Alters Intestinal Microbiota Community Structure and Metabolite Profile in Mice. MSystems, 2019, 4, .	3.8	41
44	Identification of Heterogeneous Parameters in an Intracellular Reaction Network from Population Snapshot Measurements through Sensitivity Analysis and Neural Network. IFAC-PapersOnLine, 2019, 52, 107-112.	0.9	1
45	A Static Microfluidic Device for Investigating the Chemotaxis Response to Stable, Non-linear Gradients. Methods in Molecular Biology, 2018, 1729, 47-59.	0.9	1
46	Micelleâ€Coated, Hierarchically Structured Nanofibers with Dualâ€Release Capability for Accelerated Wound Healing and Infection Control. Advanced Healthcare Materials, 2018, 7, e1800132.	7.6	42
47	Gut Microbiota-Derived Tryptophan Metabolites Modulate Inflammatory Response in Hepatocytes and Macrophages. Cell Reports, 2018, 23, 1099-1111.	6.4	406
48	Molecular Modeling of Chemoreceptor:Ligand Interactions. Methods in Molecular Biology, 2018, 1729, 353-372.	0.9	4
49	Relative Abundances of Candida albicans and Candida glabrata in In Vitro Coculture Biofilms Impact Biofilm Structure and Formation. Applied and Environmental Microbiology, 2018, 84, .	3.1	25
50	Structure-Dependent Modulation of Aryl Hydrocarbon Receptor-Mediated Activities by Flavonoids. Toxicological Sciences, 2018, 164, 205-217.	3.1	82
51	Conversion of Norepinephrine to 3,4-Dihdroxymandelic Acid in Escherichia coli Requires the QseBC Quorum-Sensing System and the FeaR Transcription Factor. Journal of Bacteriology, 2018, 200, .	2.2	11
52	Dynamic optimal experimental design yields marginal improvement over steadyâ€state results for computational maximisation of regulatory Tâ€cell induction in ex vivo culture. IET Systems Biology, 2018, 12, 241-246.	1.5	1
53	Photodegradation of fluorotelomer carboxylic 5:3 acid and perfluorooctanoic acid using zinc oxide. Environmental Pollution, 2018, 243, 637-644.	7.5	20
54	Integrative Approach to Extract the Single-cell Dynamics of LPS-induced $ext{NF}kappamathrm{B}$ Signal Pathway through Flow Cytometry Measurements and Parameter Estimation. , 2018, , .		0

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55	Mathematical Modeling and Parameter Estimation of Intracellular Signaling Pathway: Application to LPS-induced NFÎºB Activation and TNFÎ± Production in Macrophages. Processes, 2018, 6, 21.	2.8	21
56	Skin Wound Healing: Micelle-Coated, Hierarchically Structured Nanofibers with Dual-Release Capability for Accelerated Wound Healing and Infection Control (Adv. Healthcare Mater. 11/2018). Advanced Healthcare Materials, 2018, 7, 1870045.	7.6	2
57	Bisphenol-A alters microbiota metabolites derived from aromatic amino acids and worsens disease activity during colitis. Experimental Biology and Medicine, 2018, 243, 864-875.	2.4	50
58	The microbiota metabolite indole inhibits Salmonella virulence: Involvement of the PhoPQ two-component system. PLoS ONE, 2018, 13, e0190613.	2.5	51
59	Gene Expression Analysis of the Effect of Microbial Tryptophan Metabolites on Tâ€cell Differentiation. FASEB Journal, 2018, 32, 613.2.	0.5	0
60	Serotonin Promotes Enterohemorrhagic Escherichia Coli Pathogenesis Through Altered Alâ€2 Production by Gut Microbiota. FASEB Journal, 2018, 32, 669.11.	0.5	0
61	Empirical modeling of T cell activation predicts interplay of host cytokines and bacterial indole. Biotechnology and Bioengineering, 2017, 114, 2660-2667.	3.3	13
62	The Norepinephrine Metabolite 3,4-Dihydroxymandelic Acid Is Produced by the Commensal Microbiota and Promotes Chemotaxis and Virulence Gene Expression in Enterohemorrhagic Escherichia coli. Infection and Immunity, 2017, 85, .	2.2	26
63	Editorâ€™s Highlight: Microbial-Derived 1,4-Dihydroxy-2-naphthoic Acid and Related Compounds as Aryl Hydrocarbon Receptor Agonists/Antagonists: Structureâ€“Activity Relationships and Receptor Modeling. Toxicological Sciences, 2017, 155, 458-473.	3.1	40
64	Short Chain Fatty Acids Enhance Aryl Hydrocarbon (Ah) Responsiveness in Mouse Colonocytes and Caco-2 Human Colon Cancer Cells. Scientific Reports, 2017, 7, 10163.	3.3	103
65	Chemotaxis to self-generated AI-2 promotes biofilm formation in Escherichia coli. Microbiology (United Kingdom), 2017, 163, 1778-1790.	1.8	44
66	A New Link Between Stress and Infection. FASEB Journal, 2017, 31, 622.12.	0.5	0
67	Characterization of enzymatic micromachining for construction of variable cross-section microchannel topologies. Biomicrofluidics, 2016, 10, 033102.	2.4	3
68	The microbiota-derived metabolite indole decreases mucosal inflammation and injury in a murine model of NSAID enteropathy. Gut Microbes, 2016, 7, 246-261.	9.8	103
69	Mathematical Modeling of Pro- and Anti-Inflammatory Signaling in Macrophages. Processes, 2015, 3, 1-18.	2.8	34
70	Aryl Hydrocarbon Receptor Activity of Tryptophan Metabolites in Young Adult Mouse Colonocytes. Drug Metabolism and Disposition, 2015, 43, 1536-1543.	3.3	76
71	Characterization of Microbial Dysbiosis and Metabolomic Changes in Dogs with Acute Diarrhea. PLoS ONE, 2015, 10, e0127259.	2.5	135
72	Analysis of Transcription Factor Network Underlying 3T3-L1 Adipocyte Differentiation. PLoS ONE, 2014, 9, e100177.	2.5	11

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73	Chemotaxis of Escherichia coli to Norepinephrine (NE) Requires Conversion of NE to 3,4-Dihydroxymandelic Acid. Journal of Bacteriology, 2014, 196, 3992-4000.	2.2	59
74	Prediction and quantification of bioactive microbiota metabolites in the mouse gut. Nature Communications, 2014, 5, 5492.	12.8	195
75	Rational identification of diet-derived postbiotics for improving intestinal microbiota function. Current Opinion in Biotechnology, 2014, 26, 85-90.	6.6	65
76	Microbiome-Derived Tryptophan Metabolites and Their Aryl Hydrocarbon Receptor-Dependent Agonist and Antagonist Activities. Molecular Pharmacology, 2014, 85, 777-788.	2.3	254
77	Microvascular Networks for Tissue Engineering. , 2013, , 27-52.		1
78	Embedding Synthetic Microvascular Networks in Poly(Lactic Acid) Substrates with Rounded Cross-Sections for Cell Culture Applications. PLoS ONE, 2013, 8, e73188.	2.5	16
79	Human intestinal epithelial cell-derived molecule(s) increase enterohemorrhagicEscherichia colivirulence. FEMS Immunology and Medical Microbiology, 2012, 66, 399-410.	2.7	9
80	A programmable microfluidic cell array for combinatorial drug screening. Lab on A Chip, 2012, 12, 1813.	6.0	139
81	Interkingdom adenosine signal reduces Pseudomonas aeruginosa pathogenicity. Microbial Biotechnology, 2012, 5, 560-572.	4.2	12
82	Proteomic Analysis of 3T3-L1 Adipocyte Mitochondria during Differentiation and Enlargement. Journal of Proteome Research, 2011, 10, 4692-4702.	3.7	48
83	Chemotaxis to the Quorum-Sensing Signal AI-2 Requires the Tsr Chemoreceptor and the Periplasmic LsrB AI-2-Binding Protein. Journal of Bacteriology, 2011, 193, 768-773.	2.2	118
84	The bacterial signal indole increases epithelial-cell tight-junction resistance and attenuates indicators of inflammation. Proceedings of the National Academy of Sciences of the United States of America, 2010, 107, 228-233.	7.1	660
85	Co-culture of epithelial cells and bacteria for investigating hostâ€“pathogen interactions. Lab on A Chip, 2010, 10, 43-50.	6.0	108
86	Using the Tet-On system to develop a procedure for extracting transcription factor activation dynamics. Molecular BioSystems, 2010, 6, 1883.	2.9	5
87	Solution of inverse problems for obtaining protein concentrations from fluorescent microscopy images. , 2009, , .		0
88	Emerging affinity-based techniques in proteomics. Expert Review of Proteomics, 2009, 6, 573-583.	3.0	26
89	Flow-Based Microfluidic Device for Quantifying Bacterial Chemotaxis in Stable, Competing Gradients. Applied and Environmental Microbiology, 2009, 75, 4557-4564.	3.1	101
90	Rapid Fabrication of Bioâ€inspired 3D Microfluidic Vascular Networks. Advanced Materials, 2009, 21, 3567-3571.	21.0	100

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91	The neuroendocrine hormone norepinephrine increases Pseudomonas aeruginosa PA14 virulence through the las quorum-sensing pathway. Applied Microbiology and Biotechnology, 2009, 84, 763-776.	3.6	65
92	Gene Expression Profiling of Long-Term Changes in Rat Liver Following Burn Injury. Journal of Surgical Research, 2009, 152, 3-17.e2.	1.6	7
93	Expression Profiling Using Microfluidic Living Cell Arrays. , 2009, , 211-226.		0
94	Temporal regulation of enterohemorrhagic Escherichia coli virulence mediated by autoinducer-2. Applied Microbiology and Biotechnology, 2008, 78, 811-819.	3.6	76
95	Identification of proteins to predict the molecular basis for the observed gender susceptibility in a rat model of alcoholic steatohepatitis by 2â€Ð gel proteomics. Proteomics, 2008, 8, 4327-4337.	2.2	18
96	Integrated modeling and experimental approach for determining transcription factor profiles from fluorescent reporter data. BMC Systems Biology, 2008, 2, 64.	3.0	21
97	Bacterial Quorum Sensing: Signals, Circuits, and Implications for Biofilms and Disease. Annual Review of Biomedical Engineering, 2008, 10, 145-167.	12.3	281
98	Effects of forced uncoupling protein 1 expression in 3T3-L1 cells on mitochondrial function and lipid metabolism. Journal of Lipid Research, 2007, 48, 826-836.	4.2	44
99	Effect of uncoupling proteinâ€1 expression on 3T3â€Ł1 adipocyte gene expression. FEBS Letters, 2007, 581, 5865-5871.	2.8	10
100	A high-throughput microfluidic real-time gene expression living cell array. Lab on A Chip, 2007, 7, 77-85.	6.0	200
101	Enterohemorrhagic Escherichia coli Biofilms Are Inhibited by 7-Hydroxyindole and Stimulated by Isatin. Applied and Environmental Microbiology, 2007, 73, 4100-4109.	3.1	175
102	Differential Effects of Epinephrine, Norepinephrine, and Indole on Escherichia coli O157:H7 Chemotaxis, Colonization, and Gene Expression. Infection and Immunity, 2007, 75, 4597-4607.	2.2	300
103	Indole is an inter-species biofilm signal mediated by SdiA. BMC Microbiology, 2007, 7, 42.	3.3	388
104	Identification of neutrophil gelatinase-associated lipocalin (NGAL) as a discriminatory marker of the hepatocyte-secreted protein response to IL-1Î²: a proteomic analysis. Biotechnology and Bioengineering, 2005, 91, 502-515.	3.3	60
105	Optimization of Reporter Cells for Expression Profiling in a Microfluidic Device. Biomedical Microdevices, 2005, 7, 213-222.	2.8	44
106	Evaluation of an in Vitro Model of Hepatic Inflammatory Response by Gene Expression Profiling. Tissue Engineering, 2005, 11, 50-63.	4.6	24
107	Dispensable role for interferon-Î³ in the burn-induced acute phase response: A proteomic analysis. Proteomics, 2004, 4, 1830-1839.	2.2	16
108	A mouse serum two-dimensional gel map: Application to profiling burn injury and infection. Electrophoresis, 2004, 25, 3055-3065.	2.4	38

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109	Dynamic Gene Expression Profiling Using a Microfabricated Living Cell Array. Analytical Chemistry, 2004, 76, 4098-4103.	6.5	158
110	Advances in Proteomic Technologies. Annual Review of Biomedical Engineering, 2002, 4, 349-373.	12.3	103
111	Dynamics of Gene Expression in Rat Hepatocytes under Stress. Metabolic Engineering, 2000, 2, 239-251.	7.0	20