Proposal to improve vertebrate cell cultures to establish them as substitutes for the regulatory testing of chemicals and effluents using fish

#	Paper	IF	Citations
149	Primary cultured cells as sensitive in vitro model for assessment of toxicants--comparison to hepatocytes and gill epithelia. *Aquatic Toxicology*, **2006**, 80, 109-18	5.1	41
148	Multidrug resistance-associated protein 3 (Mrp3/Abcc3/Moat-D) is expressed in the SAE Squalus acanthias shark embryo-derived cell line. **2007**, 4, 261-75		9
147	Detection and functional characterization of Pgp1 (ABCB1) and MRP3 (ABCC3) efflux transporters in the PLHC-1 fish hepatoma cell line. *Aquatic Toxicology*, **2007**, 81, 365-76	5.1	41
146	Comparison of in vitro and in vivo acute fish toxicity in relation to toxicant mode of action. *Chemosphere*, **2007**, 68, 1435-41	8.4	27
145	The zebrafish embryo model in environmental risk assessment--applications beyond acute toxicity testing. *Environmental Science and Pollution Research*, **2008**, 15, 394-404	5.1	393
144	Fish cell lines as rapid and inexpensive screening and supplemental tools for whole effluent testing. **2008**, 4, 372-374		8
143	Developing a list of reference chemicals for testing alternatives to whole fish toxicity tests. *Aquatic Toxicology*, **2008**, 90, 128-37	5.1	45
142	Purification and isolation of corticosteroidogenic cells from head kidney of rainbow trout (Oncorhynchus mykiss) for testing cell-specific effects of a pesticide. **2008**, 147, 52-60		7
141	Effects and interactions in an environmentally relevant mixture of pharmaceuticals. **2008**, 102, 129-37		167
140	Ammonia-containing industrial effluents, lethal to rainbow trout, induce vacuolisation and Neutral Red uptake in the rainbow trout gill cell line, RTgill-W1. *ATLA Alternatives To Laboratory Animals*, **2009**, 37, 77-87	2.1	9
139	Evaluation of toxic and interactive toxic effects of three agrochemicals and copper using a battery of microbiotests. *Science of the Total Environment*, **2009**, 407, 4610-5	10.2	55
138	Applications and potential uses of fish gill cell lines: examples with RTgill-W1. **2009**, 45, 127-34		63
137	The influence of modes of action and physicochemical properties of chemicals on the correlation between in vitro and acute fish toxicity data. *Toxicology in Vitro*, **2009**, 23, 1372-9	3.6	35
136	Evaluation of a carp primary hepatocyte culture system for screening chemicals for oestrogenic activity. *Aquatic Toxicology*, **2009**, 94, 195-203	5.1	29
135	Regulatory aspects on the use of fish embryos in environmental toxicology. **2010**, 6, 484-91		40
134	Effect of a human pharmaceutical carbamazepine on antioxidant responses in brain of a model teleost in vitro: an efficient approach to biomonitoring. **2010**, 30, 644-8		35
133	Gene expression analysis of the ABC efflux transporters in rainbow trout (Oncorhynchus mykiss). **2010**, 151, 209-15		40

132 — Effects of solvents and dosing procedure on chemical toxicity in cell-based in vitro assays. *Environmental Science & Technology*, **2010**, 44, 4775-81 — 10.3 — 55

131 — Passive dosing for producing defined and constant exposure of hydrophobic organic compounds during in vitro toxicity tests. **2010**, 23, 55-65 — 99

130 — Development of a partition-controlled dosing system for cell assays. **2010**, 23, 1806-14 — 65

129 — Identification of multi-drug resistance associated proteins MRP1 (ABCC1) and MRP3 (ABCC3) from rainbow trout (Oncorhynchus mykiss). **2010**, 69 Suppl, S7-S10 — 11

128 — Effect of in vitro exposure to zinc on immunological parameters of haemocytes from the marine gastropod Haliotis tuberculata. **2010**, 29, 846-53 — 45

127 — Regulating Chemical Risks. **2010**, — 10

126 — Novel application of a fish gill cell line assay to assess ichthyotoxicity of harmful marine microalgae. **2011**, 10, 366-373 — 40

125 — Effect of acid blue 80, an anthracenedione dye, on rainbow trout liver, gill and gut cells in vitro. *Ecotoxicology and Environmental Safety*, **2011**, 74, 1874-8 — 7 — 8

124 — Development, characterization, conservation and storage of fish cell lines: a review. *Fish Physiology and Biochemistry*, **2011**, 37, 1-20 — 2.7 — 161

123 — Expression of a highly differentiated phenotype and hepatic functionality markers in gilthead seabream (Sparus aurata L.) long-cultured hepatocytes: first morphological and functional in vitro characterization. **2011**, 21, 571-590 — 6

122 — The versatile, changing, and advancing roles of fish in sediment toxicity assessment—a review. **2011**, 11, 141-173 — 58

121 — Evaluating the toxicity of environmental concentrations of waterborne chromium (VI) to a model teleost, Oncorhynchus mykiss: a comparative study of in vivo and in vitro. **2011**, 153, 402-7 — 29

120 — Cytotoxic effects of imidazolium ionic liquids on fish and human cell lines. **2012**, 63, 15-20 — 32

119 — Quantifying processes determining the free concentration of phenanthrene in Basal cytotoxicity assays. **2012**, 25, 436-45 — 86

118 — Assessment of RTG-W1, RTL-W1, and PLHC-1 fish cell lines for genotoxicity testing of environmental pollutants by means of a Fpg-modified comet assay. *Toxicology in Vitro*, **2012**, 26, 500-10 — 3.6 — 40

117 — Responses of primary cultured haemocytes from the marine gastropod Haliotis tuberculata under 10-day exposure to cadmium chloride. *Aquatic Toxicology*, **2012**, 109, 213-21 — 5.1 — 26

116 — Malachite green toxicity assessed on Asian catfish primary cultures of peripheral blood mononuclear cells by a proteomic analysis. *Aquatic Toxicology*, **2012**, 114-115, 142-52 — 5.1 — 30

115 — Development and characterization of cell culture systems from Puntius (Tor) chelynoides (McClelland). **2012**, 500, 140-7 — 13

114	Practical considerations for conducting ecotoxicity test methods with manufactured nanomaterials: what have we learnt so far?. **2012**, 21, 933-72		157
113	Development and characterization of a cell line TTCF from endangered mahseer Tor tor (Ham.). *Fish Physiology and Biochemistry*, **2012**, 38, 1035-1045	2.7	16
112	Fish peripheral blood mononuclear cells preparation for future monitoring applications. **2012**, 426, 153-65		24
111	Oxidative Stress and Nanotechnology. *Methods in Molecular Biology*, **2013**,	1.4	7
110	Predicting fish acute toxicity using a fish gill cell line-based toxicity assay. *Environmental Science & Technology*, **2013**, 47, 1110-9	10.3	89
109	A rapid screening test for endocrine disrupting chemicals using primary cell culture of the marine medaka. *Aquatic Toxicology*, **2013**, 144-145, 50-8	5.1	11
108	A European perspective on alternatives to animal testing for environmental hazard identification and risk assessment. **2013**, 67, 506-30		121
107	UV-induced Nucleotide Excision Repair (NER) and Photoreactivation Repair (PER) in two trout fish cell lines used in ecotoxicological assessment studies. **2013**, 125, 51-5		13
106	A priori assessment of ecotoxicological risks linked to building a hospital. *Chemosphere*, **2013**, 90, 1037-46	8.4	34
105	The combined use of the PLHC-1 cell line and the recombinant yeast assay to assess the environmental quality of estuarine and coastal sediments. **2013**, 77, 282-9		14
104	A SRCF cell line from snowtrout, Schizothorax richardsonii: development and characterization. **2013**, 45, 219-26		9
103	Development, characterization and application of a new fibroblastic-like cell line from kidney of a freshwater air breathing fish Channa striatus (Bloch, 1793). **2013**, 127, 25-32		16
102	Occurrence of PCDD/PCDFs and PCBs in soil and comparison with CYP1A response in PLHC-1 cell line. *Ecotoxicology and Environmental Safety*, **2013**, 94, 104-11	7	3
101	In vitro cytotoxicity assessment of imidazolium ionic liquids: biological effects in fish Channel Catfish Ovary (CCO) cell line. *Ecotoxicology and Environmental Safety*, **2013**, 92, 112-8	7	62
100	Rapid assessment of the toxicity of oil sands process-affected waters using fish cell lines. **2013**, 49, 52-65		14
99	In vitro biokinetics of chlorpromazine and the influence of different dose metrics on effect concentrations for cytotoxicity in Balb/c 3T3, Caco-2 and HepaRG cell cultures. *Toxicology in Vitro*, **2013**, 27, 1057-64	3.6	21
98	The use of fish-derived cell lines for investigation of environmental contaminants: an update following OECD's fish toxicity testing framework No. 171. **2013**, Chapter 1, Unit1.5		30
97	DNA repair activity in fish and interest in ecotoxicology: a review. *Aquatic Toxicology*, **2013**, 134-135, 47-56	5.1	56

78	Silver nanoparticles inhibit fish gill cell proliferation in protein-free culture medium. **2016**, 10, 1075-83		11
77	Infrared spectroscopy detects changes in an amphibian cell line induced by fungicides: Comparison of single and mixture effects. *Aquatic Toxicology*, **2016**, 178, 8-18	5.1	4
76	Advancing In Vitro-In Vivo Extrapolations of Mechanism-Specific Toxicity Data Through Toxicokinetic Modeling. **2017**, 157, 293-317		2
75	Combining different assays and chemical analysis to characterize the genotoxicity of waters impacted by textile discharges. **2016**, 57, 559-71		16
74	Defining and Controlling Exposure During In Vitro Toxicity Testing and the Potential of Passive Dosing. **2017**, 157, 263-292		1
73	Adaptation and cultivation of permanent fish cell line CCO in serum-free medium and influence of protein hydrolysates on growth performance. *Cytotechnology*, **2016**, 68, 115-121	2.2	6
72	Establishment and Characterization of a New Muscle Cell Line of Zebrafish (Danio rerio) as an In Vitro Model for Gene Expression Studies. **2016**, 27, 166-73		14
71	Use of the rainbow trout cell lines, RTgill-W1 and RTL-W1 to evaluate the toxic potential of benzotriazoles. *Ecotoxicology and Environmental Safety*, **2016**, 124, 315-323	7	11
70	A 3D fish liver model for aquatic toxicology: Morphological changes and Cyp1a induction in PLHC-1 microtissues after repeated benzo(a)pyrene exposures. *Aquatic Toxicology*, **2017**, 186, 134-144	5.1	16
69	Cell culture-based biosensing techniques for detecting toxicity in water. **2017**, 45, 59-68		24
68	Ultrathin Alumina Membranes as Scaffold for Epithelial Cell Culture from the Intestine of Rainbow Trout. **2017**, 9, 9496-9505		14
67	Primary hepatocytes from Arctic char (Salvelinus alpinus) as a relevant Arctic in vitro model for screening contaminants and environmental extracts. *Aquatic Toxicology*, **2017**, 187, 141-152	5.1	7
66	In vitro Environmental Toxicology - Concepts, Application and Assessment. **2017**,		2
65	Application of fish cell lines for evaluating the chromium induced cytotoxicity, genotoxicity and oxidative stress. *Chemosphere*, **2017**, 184, 1-12	8.4	25
64	Using silver and bighead carp cell lines for the identification of a unique metabolite fingerprint from thiram-specific chemical exposure. *Chemosphere*, **2017**, 168, 1477-1485	8.4	5
63	Responses of primary cultured haemocytes derived from the marine gastropod Haliotis tuberculata to an industrial effluent exposure. *Cytotechnology*, **2017**, 69, 191-200	2.2	1
62	Fish cell lines as a tool for the ecotoxicity assessment and ranking of engineered nanomaterials. **2017**, 90, 297-307		15
61	Application of the rainbow trout derived intestinal cell line (RTgutGC) for ecotoxicological studies: molecular and cellular responses following exposure to copper. **2017**, 26, 1117-1133		16

60	Establishment of a new teleost brain cell line (DLB-1) from the European sea bass and its use to study metal toxicology. *Toxicology in Vitro*, **2017**, 38, 91-100	3.6	17
59	Cytotoxicity and oxidative stress responses of silica-coated iron oxide nanoparticles in CHSE-214 cells. *Environmental Science and Pollution Research*, **2017**, 24, 2055-2064	5.1	14
58	An in silico approach to cytotoxicity of pharmaceuticals and personal care products on the rainbow trout liver cell line RTL-W1. *Environmental Toxicology and Chemistry*, **2017**, 36, 1162-1169	3.8	6
57	Biotransformation of Benzo[a]pyrene by Three Rainbow Trout (Onchorhynchus mykiss) Cell Lines and Extrapolation To Derive a Fish Bioconcentration Factor. *Environmental Science & Technology*, **2018**, 52, 3091-3100	10.3	26
56	On the impact of sample size on median lethal concentration estimation in acute fish toxicity testing: Is n = 7/group enough?. *Environmental Toxicology and Chemistry*, **2018**, 37, 1565-1578	3.8	5
55	Assessing the impact of benzo[a]pyrene with the in vitro fish gut model: An integrated approach for eco-genotoxicological studies. **2018**, 826, 53-64		11
54	Ecotoxicology Goes on a Chip: Embracing Miniaturized Bioanalysis in Aquatic Risk Assessment. *Environmental Science & Technology*, **2018**, 52, 932-946	10.3	23
53	Ecotoxicological potential of the biocides terbutryn, octhilinone and methylisothiazolinone: Underestimated risk from biocidal pathways?. *Science of the Total Environment*, **2018**, 625, 900-908	10.2	18
52	Development of a new tool for the long term in vitro ecotoxicity testing of nanomaterials using a rainbow-trout cell line (RTL-W1). *Toxicology in Vitro*, **2018**, 50, 305-317	3.6	7
51	The characterization of H2AX and p53 as biomarkers of genotoxic stress in a rainbow trout (Oncorhynchus mykiss) brain cell line. *Chemosphere*, **2018**, 201, 850-858	8.4	8
50	In vitro or not in vitro: a short journey through a long history. *Environmental Sciences Europe*, **2018**, 30, 23	5	30
49	On the prediction of cytotoxicity of diverse chemicals for topminnow (Poeciliopsis lucida) hepatoma cell line, PLHC-1. *SAR and QSAR in Environmental Research*, **2018**, 29, 675-691	3.5	0
48	Application of Experimental Polystyrene Partition Constants and Diffusion Coefficients to Predict the Sorption of Neutral Organic Chemicals to Multiwell Plates in in Vivo and in Vitro Bioassays. *Environmental Science & Technology*, **2018**, 52, 13511-13522	10.3	24
47	An International Perspective on the Tools and Concepts for Effluent Toxicity Assessments in the Context of Animal Alternatives: Reduction in Vertebrate Use. *Environmental Toxicology and Chemistry*, **2018**, 37, 2745-2757	3.8	18
46	In Vitro Culture and Characterization of Testis-Derived Cells from Clarias magur (Hamilton, 1822). *Proceedings of the National Academy of Sciences India Section B - Biological Sciences*, **2019**, 89, 1017-1025	1.4	2
45	Improving a fish intestinal barrier model by combining two rainbow trout cell lines: epithelial RTgutGC and fibroblastic RTgutF. *Cytotechnology*, **2019**, 71, 835-848	2.2	7
44	Fish-gut-on-chip: development of a microfluidic bioreactor to study the role of the fish intestine in vitro. *Lab on A Chip*, **2019**, 19, 3268-3276	7.2	16
43	Characterization of different DNA repair pathways in hepatic cells of Zebrafish (Danio rerio). *DNA Repair*, **2019**, 83, 102695	4.3	5

42	In Vitro-In Vivo Extrapolation to Predict Bioaccumulation and Toxicity of Chemicals in Fish Using Physiologically Based Toxicokinetic Models. *Methods in Pharmacology and Toxicology*, **2019**, 1	1.1	1
41	Performance of Three-Dimensional Rainbow Trout (Oncorhynchus mykiss) Hepatocyte Spheroids for Evaluating Biotransformation of Pyrene. *Environmental Toxicology and Chemistry*, **2019**, 38, 1738-1747	3.8	2
40	Cell-based assays seem not to accurately predict fish short-term toxicity of pesticides. *Environmental Pollution*, **2019**, 252, 476-482	9.3	10
39	Establishment and characterization of a fibroblast-like cell line from the muscle of turbot (Scophthalmus maximus L.). *Fish Physiology and Biochemistry*, **2019**, 45, 1129-1139	2.7	10
38	Cytotoxicity of organic and inorganic compounds to primary cell cultures established from internal tissues of Chelonia mydas. *Science of the Total Environment*, **2019**, 664, 958-967	10.2	13
37	Predicting Cytotoxicity and Enzymatic Activity of Diverse Chemicals Using Goldfish Scale Tissue and Topminnow Hepatoma Cell Line-based Data. *Molecular Informatics*, **2019**, 38, e1800127	3.8	2
36	Hypo- or hyperactivity of zebrafish embryos provoked by neuroactive substances: a review on how experimental parameters impact the predictability of behavior changes. *Environmental Sciences Europe*, **2019**, 31,	5	24
35	In vitro exposure of vitellogenic rainbow trout ovarian follicles to endocrine disrupting chemicals can alter basal estradiol-17βproduction and responsiveness to a gonadotropin challenge. *Aquatic Toxicology*, **2019**, 217, 105346	5.1	4
34	Primary green turtle (Chelonia mydas) skin fibroblasts as an in vitro model for assessing genotoxicity and oxidative stress. *Aquatic Toxicology*, **2019**, 207, 13-18	5.1	16
33	The cellular responses of autophagy, apoptosis, and 5-methylcytosine level in zebrafish cells upon nutrient deprivation stress. *Chemosphere*, **2020**, 241, 124989	8.4	8
32	Cell-based assays as an alternative for the study of aquatic toxicity of pharmaceuticals. *Environmental Science and Pollution Research*, **2020**, 27, 7145-7155	5.1	5
31	QSAR/QSPR models based on quantum chemistry for risk assessment of pesticides according to current European legislation. *SAR and QSAR in Environmental Research*, **2020**, 31, 49-72	3.5	17
30	Rat cardiomyocyte H9c2(2-1)-based sulforhodamine B assay as a promising in vitro method to assess the biological component of effluent toxicity. *Journal of Environmental Sciences*, **2020**, 96, 163-170	6.4	1
29	Chemical and Colloidal Dynamics of MnO Nanosheets in Biological Media Relevant for Nanosafety Assessment. *Small*, **2020**, 16, e2000303	11	9
28	QSAR modeling with ETA indices for cytotoxicity and enzymatic activity of diverse chemicals. *Journal of Hazardous Materials*, **2020**, 394, 122498	12.8	9
27	Oxidative stress in liver cell culture from mullet, Liza klunzingeri, induced by short-term exposure to benzo[a]pyrene and nonylphenol. *Fish Physiology and Biochemistry*, **2020**, 46, 1183-1197	2.7	7
26	Toxicity testing: in vitro models in ecotoxicology. **2020**, 477-486		1
25	Discrepant dose responses of bisphenol A on oxidative stress and DNA methylation in grass carp ovary cells. *Chemosphere*, **2020**, 248, 126110	8.4	8

#	Reference		
24	Comparative study of cytotoxicity by platinum nanoparticles and ions in vitro systems based on fish cell lines. *Toxicology in Vitro*, **2020**, 66, 104859	3.6	4
23	Establishment and characterization of a gill cell line from pearl gentian grouper (Epinephelus lanceolatus?♂Epinephelus fuscoguttatus?♀) and its application in cadmium toxicology. *Ecotoxicology and Environmental Safety*, **2021**, 208, 111614	7	3
22	Modeling Bioavailable Concentrations in Zebrafish Cell Lines and Embryos Increases the Correlation of Toxicity Potencies across Test Systems. *Environmental Science & Technology*, **2021**, 55, 447-457	10.3	5
21	Methylmercury displays pro-adipogenic properties in rainbow trout preadipocytes. *Chemosphere*, **2021**, 263, 127917	8.4	2
20	Predicting exposure concentrations of chemicals with a wide range of volatility and hydrophobicity in different multi-well plate set-ups. *Scientific Reports*, **2021**, 11, 4680	4.9	2
19	Toward High-Throughput Fish Embryo Toxicity Tests in Aquatic Toxicology. *Environmental Science & Technology*, **2021**, 55, 3505-3513	10.3	5
18	Cultured rainbow trout gill epithelium as an method for marine ecosystem toxicological studies. *Heliyon*, **2021**, 7, e08018	3.6	
17	Testing nanomaterial toxicity in unicellular eukaryotic algae and fish cell lines. *Methods in Molecular Biology*, **2013**, 1028, 165-95	1.4	2
16	Measured and modeled toxicokinetics in cultured fish cells and application to in vitro-in vivo toxicity extrapolation. *PLoS ONE*, **2014**, 9, e92303	3.7	50
15	Oxidative Stress and Nano-Toxicity Induced by TiO2 and ZnO on WAG Cell Line. *PLoS ONE*, **2015**, 10, e0127493	3.7	65
14	Development of Primary Cell Lines from Gill, Kidney, Spleen and Caudal Fin of Common Carp (Cyprinus carpio). *Jurnal Ilmiah Perikanan Dan Kelautan*, **2020**, 12, 73	0.7	1
13	Testing in Aquatic Ecotoxicology: What Are the Scientific Conditions for the 3R Concept?. **2010**, 99-119		
12	Ekotoksikoloji Alanında Balık Hücre Hatlarının Kullanımı. *Etlik Veteriner Mikrobiyoloji Dergisi*, **2018**, 29, 175-180	0	
11	The Development and Evaluation of Brain and Heart Cell Lines from a Marine Fish for Use in Xenobiotic-Induced Cytotoxicity Testing. *ATLA Alternatives To Laboratory Animals*, **2021**, 49, 147-156	2.1	0
10	Sea Bass Primary Cultures versus RTgill-W1 Cell Line: Influence of Cell Model on the Sensitivity to Nanoparticles. *Nanomaterials*, **2021**, 11,	5.4	1
9	Applications of Fish Cell Cultures. **2021**, 123-163		
8	Assessing Fish Immunotoxicity by Means of Assays: Are We There Yet?. *Frontiers in Immunology*, **2022**, 13, 835767	8.4	1
7	Development and characterization of a new gill cell line from the striped catfish, Pangasianodon hypophthalmus (Sauvage, 1878).. *Fish Physiology and Biochemistry*, **2022**, 48, 367	2.7	0

6	Occurrence, hazard, and risk of psychopharmaceuticals and illicit drugs in European surface waters. *Water Research*, **2022**, 222, 118878	12.5	1
5	Review of ecologically relevant in vitro bioassays to supplement current in vivo tests for whole effluent toxicity testing - Part 1: Apical endpoints. **2022**, 157817		
4	High-throughput screening paradigms in ecotoxicity testing: Emerging prospects and ongoing challenges. **2022**, 307, 135929		1
3	Establishment of an in vitro model from the vulnerable fish species Coregonus maraena (maraena whitefish): Optimization of growth conditions and characterization of the cell line.		0
2	Distinguishing between ante factum and post factum properties of animal cell lines and demonstrating their use in grouping ray-finned fish cell lines into invitromes.		0
1	Zebrafish as a biological model for assessing water quality along tropical hydrographic river basins in Northeast Brazil..		0