Marie-pierre Rols

List of Publications by Year
in descending order

131 papers	5,444 citations	81900 39 h-index	88630 70 g-index
133 all docs	133 docs citations	133 times ranked	4073 citing authors

#	Article	IF	Citations
1	High Power Electromagnetic Waves Exposure of Healthy and Tumor Bearing Mice: Assessment of Effects on Mice Growth, Behavior, Tumor Growth, and Vessel Permeabilization. International Journal of Molecular Sciences, 2021, 22, 8516.	4.1	2
2	Transfer of small interfering RNA by electropermeabilization in tumor spheroids. Bioelectrochemistry, 2021, 141, 107848.	4.6	2
3	A nanosecond pulsed electric field (nsPEF) can affect membrane permeabilization and cellular viability in a 3D spheroids tumor model. Bioelectrochemistry, 2021, 141, 107839.	4.6	9
4	Transdermal Delivery of Macromolecules Using Two-in-One Nanocomposite Device for Skin Electroporation. Pharmaceutics, 2021, 13, 1805.	4.5	8
5	Cyclin B1 knockdown mediated by clinically approved pulsed electric fields siRNA delivery induces tumor regression in murine melanoma. International Journal of Pharmaceutics, 2020, 573, 118732.	5.2	3
6	Comparison of Iron Oxide Nanoparticles in Photothermia and Magnetic Hyperthermia: Effects of Clustering and Silica Encapsulation on Nanoparticlesâ€™ Heating Yield. Applied Sciences (Switzerland), 2020, 10, 7322.	2.5	49
7	Electric Field Based Therapies in Cancer Treatment. Cancers, 2020, 12, 3420.	3.7	4
8	Editorial for the Special Issue of Bioelectrochemistry. Bioelectrochemistry, 2020, 135, 107555.	4.6	0
9	An<i>in vitro</i>study of the cytotoxicity of TTFÂ·TCNQ nanoparticles to mammalian cells. Materials Advances, 2020, 1, 1963-1970.	5.4	2
10	Calcium Delivery by Electroporation Induces In Vitro Cell Death through Mitochondrial Dysfunction without DNA Damages. Cancers, 2020, 12, 425.	3.7	28
11	Development of a near infrared protein nanoprobe targeting Thomsen-Friedenreich antigen for intraoperative detection of submillimeter nodules in an ovarian peritoneal carcinomatosis mouse model. Biomaterials, 2020, 241, 119908.	11.4	7
12	Electroporation does not affect human dermal fibroblast proliferation and migration properties directly but indirectly via the secretome. Bioelectrochemistry, 2020, 134, 107531.	4.6	7
13	Evaluation of Cell Membrane Effects After 3D Multicellular Spheroids RF Exposure. , 2020, , .		0
14	Amphiphilic polymers based on polyoxazoline as relevant nanovectors for photodynamic therapy. Journal of Materials Chemistry B, 2019, 7, 4973-4982.	5.8	15
15	Pre-clinical investigation of the synergy effect of interleukin-12 gene-electro-transfer during partially irreversible electropermeabilization against melanoma. , 2019, 7, 161.		19
16	A protein nanocontainer targeting epithelial cancers: rational engineering, biochemical characterization, drug loading and cell delivery. Nanoscale, 2019, 11, 3248-3260.	5.6	6
17	Increasing Uptake of Silica Nanoparticles with Electroporation: From Cellular Characterization to Potential Applications. Materials, 2019, 12, 179.	2.9	12
18	Pulsed Electric Field Treatment Enhances the Cytotoxicity of Plasma-Activated Liquids in a Three-Dimensional Human Colorectal Cancer Cell Model. Scientific Reports, 2019, 9, 7583.	3.3	37

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19	Effect of trans(NO, OH)-[RuFT(Cl)(OH)NO](PF6) ruthenium nitrosyl complex on methicillin-resistant Staphylococcus epidermidis. Scientific Reports, 2019, 9, 4867.	3.3	21
20	Elucidation of in vitro cellular steps induced by antitumor treatment with plasma-activated medium. Scientific Reports, 2019, 9, 4866.	3.3	40
21	Changes in nanomechanical properties and adhesion dynamics of algal cells during their growth. Bioelectrochemistry, 2019, 127, 154-162.	4.6	23
22	Evaluation of a Microwave Biosensor for On-Chip Electroporation and Efficient Molecular Delivery Into Mammalian Cells. IEEE Journal of Electromagnetics, RF and Microwaves in Medicine and Biology, 2019, 3, 224-231.	3.4	1
23	Evaluations of Acute and Sub-Acute Biological Effects of Narrowband and Moderate-Band High Power Electromagnetic Waves on Cellular Spheroids. Scientific Reports, 2019, 9, 15324.	3.3	5
24	Magnetic Silica-Coated Iron Oxide Nanochains as Photothermal Agents, Disrupting the Extracellular Matrix, and Eradicating Cancer Cells. Cancers, 2019, 11, 2040.	3.7	25
25	Electric field-responsive nanoparticles and electric fields: physical, chemical, biological mechanisms and therapeutic prospects. Advanced Drug Delivery Reviews, 2019, 138, 56-67.	13.7	113
26	Noninvasive Gene Electrotransfer in Skin. Human Gene Therapy Methods, 2019, 30, 17-22.	2.1	4
27	Increased permeability of blood vessels after reversible electroporation is facilitated by alterations in endothelial cell-to-cell junctions. Journal of Controlled Release, 2018, 276, 30-41.	9.9	41
28	Safe and efficient novel approach for non-invasive gene electrotransfer to skin. Scientific Reports, 2018, 8, 16833.	3.3	17
29	Electrical discharges in water induce sporesâ€™ DNA damage. PLoS ONE, 2018, 13, e0201448.	2.5	6
30	A journey from the endothelium to the tumor tissue: distinct behavior between PEO-PCL micelles and polymersomes nanocarriers. Drug Delivery, 2018, 25, 1766-1778.	5.7	14
31	In Vivo Evaluation of a New Recombinant Hyaluronidase to Improve Gene Electro-Transfer Protocols for DNA-Based Drug Delivery against Cancer. Cancers, 2018, 10, 405.	3.7	13
32	High power electromagnetic pulse applicators for evaluation of biological effects induced by electromagnetic radiation waves. RSC Advances, 2018, 8, 16319-16329.	3.6	3
33	Microwave Monitoring of Single Cell Monocytes Subjected to Electroporation. IEEE Transactions on Microwave Theory and Techniques, 2017, 65, 3512-3518.	4.6	39
34	Importance of endogenous extracellular matrix in biomechanical properties of human skin model. Biofabrication, 2017, 9, 025017.	7.1	17
35	Cell Membrane Transport Mechanisms: Ion Channels and Electrical Properties of Cell Membranes. Advances in Anatomy, Embryology and Cell Biology, 2017, 227, 39-58.	1.6	34
36	Parameters Affecting Cell Viability Following Electroporation In Vitro. , 2017, , 1449-1465.		10

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37	Gene Delivery by Electroporation In Vitro: Mechanisms. , 2017, , 387-401.		1
38	Molecular Transmembrane Transport with Giant Unilamellar Vesicles (GUVs). , 2017, , 95-111.		0
39	Biological Responses. , 2017, , 155-274.		3
40	Medical Applications. , 2017, , 275-388.		2
41	How Imaging Membrane and Cell Processes Involved in Electropermeabilization Can Improve Its Development in Cell Biology and in Clinics. Advances in Anatomy, Embryology and Cell Biology, 2017, 227, 107-118.	1.6	1
42	Gene Electrotransfer: A Mechanistic Perspective. Current Gene Therapy, 2016, 16, 98-129.	2.0	168
43	Drug Release by Direct Jump from Poly(ethylene-glycol-b-Îµ-caprolactone) Nano-Vector to Cell Membrane. Molecules, 2016, 21, 1643.	3.8	9
44	Electroporation and lipid nanoparticles with cyanine IR-780 and flavonoids as efficient vectors to enhanced drug delivery in colon cancer. Bioelectrochemistry, 2016, 110, 19-31.	4.6	64
45	Endocytosis and Endosomal Trafficking of DNA After Gene Electrotransfer In Vitro. Molecular Therapy - Nucleic Acids, 2016, 5, e286.	5.1	66
46	Inactivation of spores by electric arcs. BMC Microbiology, 2016, 16, 148.	3.3	5
47	Nucleic Acid Electrotransfer in Mammalian Cells: Mechanistic Description. , 2016, , 1-14.		0
48	Gene Delivery by Electroporation In Vitro: Mechanisms. , 2016, , 1-16.		3
49	Self-assembled polymeric vectors mixtures: characterization of the polymorphism and existence of synergistic effects in photodynamic therapy. Nanotechnology, 2016, 27, 315102.	2.6	16
50	Crosslinked polymeric self-assemblies as an efficient strategy for photodynamic therapy on a 3D cell culture. RSC Advances, 2016, 6, 69984-69998.	3.6	17
51	Microwave dielectric spectroscopy for single cell irreversible electroporation monitoring. , 2016, , .		10
52	Cell wall as a target for bacteria inactivation by pulsed electric fields. Scientific Reports, 2016, 6, 19778.	3.3	146
53	Conjugates of Benzoxazole and GFP Chromophore with Aggregationâ€Induced Enhanced Emission: Influence of the Chain Length on the Formation of Particles and on the Dye Uptake by Living Cells. Small, 2016, 12, 6602-6612.	10.0	28
54	How transient alterations of organelles in mammalian cells submitted to electric field may explain some aspects of gene electrotransfer process. Bioelectrochemistry, 2016, 112, 166-172.	4.6	7

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55	Gene transfer by pulsed electric field is highly promising in cutaneous wound healing. Expert Opinion on Biological Therapy, 2016, 16, 67-77.	3.1	16
56	Gene Electrotransfer in 3D Reconstructed Human Dermal Tissue. Current Gene Therapy, 2016, 16, 75-82.	2.0	11
57	Visualization of Nonspecific Antitumor Effectiveness and Vascular Effects of Gene Electro-Transfer to Tumors. Current Gene Therapy, 2016, 16, 90-97.	2.0	7
58	Parameters Affecting Cell Viability Following Electroporation In Vitro. , 2016, , 1-17.		2
59	Molecular Transmembrane Transport with Giant Unilamellar Vesicles (GUVs). , 2016, , 1-17.		0
60	A Comparative Study on the Effects of Millisecond- and Microsecond-Pulsed Electric Field Treatments on the Permeabilization and Extraction of Pigments from Chlorella vulgaris. Journal of Membrane Biology, 2015, 248, 883-891.	2.1	73
61	Efficient In Vitro Electropermeabilization of Reconstructed Human Dermal Tissue. Journal of Membrane Biology, 2015, 248, 903-908.	2.1	21
62	Electric Destabilization of Supramolecular Lipid Vesicles Subjected to Fast Electric Pulses. Langmuir, 2015, 31, 12215-12222.	3.5	18
63	Generator and Setup for Emulating Exposures of Biological Samples to Lightning Strokes. IEEE Transactions on Biomedical Engineering, 2015, 62, 2535-2543.	4.2	4
64	Nanosecond electric pulses: A mini-review of the present state of the art. Bioelectrochemistry, 2015, 103, 2-6.	4.6	58
65	Versatile Cellular Uptake Mediated by Catanionic Vesicles: Simultaneous Spontaneous Membrane Fusion and Endocytosis. Molecular Pharmaceutics, 2015, 12, 103-110.	4.6	21
66	Calcium Electroporation: Evidence for Differential Effects in Normal and Malignant Cell Lines, Evaluated in a 3D Spheroid Model. PLoS ONE, 2015, 10, e0144028.	2.5	88
67	Polymeric Micelles Encapsulating Photosensitizer: Structure/Photodynamic Therapy Efficiency Relation. Biomacromolecules, 2014, 15, 1443-1455.	5.4	62
68	Shock waves associated with electric pulses affect cell electro-permeabilization. Bioelectrochemistry, 2014, 100, 36-43.	4.6	12
69	Direct Validation of Aptamers as Powerful Tools to Image Solid Tumor. Nucleic Acid Therapeutics, 2014, 24, 217-225.	3.6	15
70	Membrane disorder and phospholipid scrambling in electropermeabilized and viable cells. Biochimica Et Biophysica Acta - Biomembranes, 2014, 1838, 1701-1709.	2.6	31
71	Plane wave in vitro exposure of biological samples, geometries considerations. , 2014, , .		1
72	Nanosecond Electric Pulse Effects on Gene Expression. Journal of Membrane Biology, 2013, 246, 851-859.	2.1	39

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73	Electric Field-Assisted Delivery of Photofrin to Human Breast Carcinoma Cells. Journal of Membrane Biology, 2013, 246, 725-735.	2.1	25
74	3D Spheroidsâ€™ Sensitivity to Electric Field Pulses Depends on Their Size. Journal of Membrane Biology, 2013, 246, 745-750.	2.1	16
75	Cyanines in photodynamic reaction assisted by reversible electroporationâ€”in vitro study on human breast carcinoma cells. Photodiagnosis and Photodynamic Therapy, 2013, 10, 490-502.	2.6	13
76	Intracellular Tracking of Single-plasmid DNA Particles After Delivery by Electroporation. Molecular Therapy, 2013, 21, 2217-2226.	8.2	72
77	Destabilization induced by electropermeabilization analyzed by atomic force microscopy. Biochimica Et Biophysica Acta - Biomembranes, 2013, 1828, 2223-2229.	2.6	40
78	Effect of different parameters used for <i>in vitro</i> gene electrotransfer on gene expression efficiency, cell viability and visualization of plasmid DNA at the membrane level. Journal of Gene Medicine, 2013, 15, 169-181.	2.8	46
79	Antitumor drug delivery in multicellular spheroids by electropermeabilization. Journal of Controlled Release, 2013, 167, 138-147.	9.9	67
80	Fluorescence Imaging in Cancerology. Current Molecular Imaging, 2013, 2, 3-17.	0.7	1
81	Nucleic Acids Electro-transfer: From Bench to Bedside. Current Drug Metabolism, 2013, 14, 300-308.	1.2	13
82	Progress and Prospects: The Use of 3D Spheroid Model as a Relevant Way to Study and Optimize DNA Electrotransfer. Current Gene Therapy, 2013, 13, 175-181.	2.0	15
83	Sub-cellular temporal and spatial distribution of electrotransferred LNA/DNA oligomer. Journal of Rnai and Gene Silencing, 2013, 9, 479-85.	1.2	4
84	Electrochemotherapy: Progress and Prospects. Current Pharmaceutical Design, 2012, 18, 3406-3415.	1.9	53
85	New Insights in the Gene Electrotransfer Process: Evidence for the Involvement of the Plasmid DNA Topology. Current Gene Therapy, 2012, 12, 417-422.	2.0	17
86	Giant lipid vesicles under electric field pulses assessed by non invasive imaging. Bioelectrochemistry, 2012, 87, 253-259.	4.6	32
87	Interaction between GUVs and catanionic nanocontainers: new insight into spontaneous membrane fusion. Chemical Communications, 2012, 48, 6648.	4.1	9
88	Destabilizing Giant Vesicles with Electric Fields: An Overview of Current Applications. Journal of Membrane Biology, 2012, 245, 555-564.	2.1	37
89	Effect of Electric Field Intensity on Plasmid DNA/Membrane Interaction during In-Vitro Gene Electrotransfer. Drug Delivery Letters, 2012, 2, 22-25.	0.5	0
90	Investigating relationship between transfection and permeabilization by the electric field and/or the PluronicÂ® L64 <i>in vitro</i> and <i>in vivo</i>. Journal of Gene Medicine, 2012, 14, 204-215.	2.8	3

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91	Cholesterol implications in plasmid DNA electrotransfer: Evidence for the involvement of endocytotic pathways. International Journal of Pharmaceutics, 2012, 423, 134-143.	5.2	41
92	Effect of Electric Field Intensity on Plasmid DNA/Membrane Interaction during In-Vitro Gene Electrotransfer. Drug Delivery Letters, 2012, 2, 22-25.	0.5	0
93	Electrochemotherapy: Progress and Prospects. Current Pharmaceutical Design, 2012, , .	1.9	0
94	Electrochemotherapy: progress and prospects. Current Pharmaceutical Design, 2012, 18, 3406-15.	1.9	19
95	Insights into the mechanisms of electromediated gene delivery and application to the loading of giant vesicles with negatively charged macromolecules. Soft Matter, 2011, 7, 3872.	2.7	31
96	Electromediated formation of DNA complexes with cell membranes and its consequences for gene delivery. Biochimica Et Biophysica Acta - Biomembranes, 2011, 1808, 1538-1543.	2.6	79
97	The Actin Cytoskeleton Has an Active Role in the Electrotransfer of Plasmid DNA in Mammalian Cells. Molecular Therapy, 2011, 19, 913-921.	8.2	72
98	Electrotransfer of Plasmid DNA. , 2011, , 145-157.		1
99	Editorial [Hot topic: Gene Transfer by Electric Fields (Guest Editor: Marie-Pierre Rols)]. Current Gene Therapy, 2010, 10, 255-255.	2.0	8
100	Gene Transfer: How Can the Biological Barriers Be Overcome?. Journal of Membrane Biology, 2010, 236, 61-74.	2.1	66
101	Electroâ€mediated gene transfer and expression are controlled by the lifeâ€time of DNA/membrane complex formation. Journal of Gene Medicine, 2010, 12, 117-125.	2.8	104
102	Observations of the Mechanisms of Electromediated DNA Uptake - From Vesicles to Tissues. Current Gene Therapy, 2010, 10, 256-266.	2.0	29
103	Transgene expression of transfected supercoiled plasmid DNA concatemers in mammalian cells. Journal of Gene Medicine, 2009, 11, 1071-1073.	2.8	8
104	What is (Still not) Known of the Mechanism by Which Electroporation Mediates Gene Transfer and Expression in Cells and Tissues. Molecular Biotechnology, 2009, 41, 286-295.	2.4	231
105	Gene electrotransfer: from biophysical mechanisms to in vivo applications. Biophysical Reviews, 2009, 1, 185-191.	3.2	2
106	Gene electrotransfer: from biophysical mechanisms to in vivo applications. Biophysical Reviews, 2009, 1, 177-184.	3.2	8
107	Visualization of Membrane Loss during the Shrinkage of Giant Vesicles under Electropulsation. Biophysical Journal, 2009, 96, 4109-4121.	0.5	63
108	Mechanism by Which Electroporation Mediates DNA Migration and Entry into Cells and Targeted Tissues. Methods in Molecular Biology, 2008, 423, 19-33.	0.9	35

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109	EFFICIENCY OF HIGH AND LOW VOLTAGE PULSE COMBINATIONS FOR GENE ELECTROTRANSFER IN MUSCLE, LIVER, TUMOR AND SKIN. Human Gene Therapy, 2008, 19, 081015093227032.	2.7	74
110	Electrotransfer as a Non Viral Method of Gene Delivery. Current Gene Therapy, 2007, 7, 67-77.	2.0	97
111	Electroporator with automatic change of electric field direction improves gene electrotransfer in-vitro. BioMedical Engineering OnLine, 2007, 6, 25.	2.7	55
112	Electropermeabilization, a physical method for the delivery of therapeutic molecules into cells. Biochimica Et Biophysica Acta - Biomembranes, 2006, 1758, 423-428.	2.6	126
113	New insights in the visualization of membrane permeabilization and DNA/membrane interaction of cells submitted to electric pulses. Biochimica Et Biophysica Acta - General Subjects, 2005, 1724, 248-254.	2.4	53
114	Effect of electric field vectoriality on electrically mediated gene delivery in mammalian cells. Biochimica Et Biophysica Acta - Biomembranes, 2004, 1665, 92-100.	2.6	86
115	Effect of electric field induced transmembrane potential on spheroidal cells: theory and experiment. European Biophysics Journal, 2003, 32, 519-528.	2.2	197
116	Cell and Animal Imaging of Electrically Mediated Gene Transfer. DNA and Cell Biology, 2003, 22, 777-783.	1.9	38
117	Direct visualization at the single-cell level of electrically mediated gene delivery. Proceedings of the National Academy of Sciences of the United States of America, 2002, 99, 1292-1297.	7.1	379
118	Cell synchronization effect on mammalian cell permeabilization and gene delivery by electric field. Biochimica Et Biophysica Acta - Biomembranes, 2002, 1563, 23-28.	2.6	67
119	Control by membrane order of voltage-induced permeabilization, loading and gene transfer in mammalian cells. Bioelectrochemistry, 2001, 53, 25-34.	4.6	32
120	In Vitro Delivery of Drugs and Other Molecules to Cells. , 2000, 37, 83-97.		5
121	Effect of serum on in vitro electrically mediated gene delivery and expression in mammalian cells. Biochimica Et Biophysica Acta - Biomembranes, 2000, 1467, 362-368.	2.6	34
122	Flow Cytometry Quantification of Electropermeabilization. , 1998, 91, 141-148.		13
123	In vivo electrically mediated protein and gene transfer in murine melanoma. Nature Biotechnology, 1998, 16, 168-171.	17.5	393
124	Control by ATP and ADP of voltage-induced mammalian-cell-membrane permeabilization, gene transfer and resulting expression. FEBS Journal, 1998, 254, 382-388.	0.2	66
125	Electropermeabilization of Mammalian Cells to Macromolecules: Control by Pulse Duration. Biophysical Journal, 1998, 75, 1415-1423.	0.5	295
126	Control by Osmotic Pressure of Voltage-Induced Permeabilization and Gene Transfer in Mammalian Cells. Biophysical Journal, 1998, 74, 3015-3022.	0.5	126

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127	Temperature effects on electrotransfection of mammalian cells. Nucleic Acids Research, 1994, 22, 540-540.	14.5	68
128	Manipulation of Cell Cytoskeleton Affects the Lifetime of Cell Membrane Electropermeabilization. Annals of the New York Academy of Sciences, 1994, 720, 98-110.	3.8	74
129	Experimental evidence for the involvement of the cytoskeleton in mammalian cell electropermeabilization. Biochimica Et Biophysica Acta - Biomembranes, 1992, 1111, 45-50.	2.6	86
130	Highly efficient transfection of mammalian cells by electric field pulses. Application to large volumes of cell culture by using a flow system. FEBS Journal, 1992, 206, 115-121.	0.2	51
131	Ionic-strength modulation of electrically induced permeabilization and associated fusion of mammalian cells. FEBS Journal, 1989, 179, 109-115.	0.2	106