

# « CELLULAR BIOPHYSICS » TEAM

Marie-Pierre Rols

## A COMPLETE LIST OF THE PAPERS, BY YEAR:

2016

- Gibot L., Rols M.P. (2016) Gene transfer by pulsed electric field is highly promising in cutaneous wound healing. **Expert Opin Biol Th** 16:67-77
- Golzio, M. and J. Teissie (2016) Imaging of Electrotransferred siRNA. **Methods Mol Biol** 1372: 89-97
- Madi M., Rols M.P., Gibot L. (2016) Gene Electrotransfer in 3D Reconstructed Human Dermal Tissue. **Curr Gene Ther.** 16:75-82
- Phez E., Gibot L., Rols M.P. (2016) How transient alterations of organelles in mammalian cells submitted to electric field may explain some aspects of gene electrotransfer process. **Bioelectrochemistry** S1567-5394:30013-5
- Pillet F., Formosa-Dague C., Baaziz H., Dague E., Rols M.P. (2016) Cell wall as a target for bacteria inactivation by pulsed electric fields. **Scientific reports** 6:19778
- Pillet, F., Marjanovic I., et al. (2016) Inactivation of spores by electric arcs. **BMC Microbiol** 16(1): 148

2015

- Mauroy C., Rico-Lattes I., Teissie J., Rols M.P. (2015) Electric Destabilization of Supramolecular Lipid Vesicles Subjected to Fast Electric Pulses. **Langmuir : the ACS journal of surfaces and colloids** 31:12215-12222
- Chabot, S., Teissie, J., and Golzio, M. (2015) Targeted electro-delivery of oligonucleotides for RNA interference: siRNA and anti-miR. **Adv Drug Deliv Rev** 81:161-8
- Chopinet, L., and Rols, M.P. (2015) Nanosecond electric pulses: a mini-review of the present state of the art. **Bioelectrochemistry** 103:2-6
- Coustets, M., Ganeva, V., Galutzov, B., and Teissie, J. (2015) Millisecond duration pulses for flow-through electro-induced protein extraction from E. coli and associated eradication. **Bioelectrochemistry** 103:82-91
- Madi, M., Rols, M.P., and Gibot, L. (2015) Efficient In Vitro Electropermeabilization of Reconstructed Human Dermal Tissue. **J Membr Biol** 248:903-8
- Mauroy, C., Castagnos, P., Orio, J., Blache, M.C., Rico-Lattes, I., Teissie, J., Rols, M.P., and Blanzat, M. (2015). Versatile cellular uptake mediated by cationic vesicles: simultaneous spontaneous membrane fusion and endocytosis. **Mol Pharm** 12:103-10

2014

- Castagnos, P., Rico-Lattes, M. Blanzat, C. Mauroy, J. Orio, M. C. Blache, J. Teissie, and M. P. Rols. (2014) Versatile cellular uptake mediated by cationic vesicles: simultaneous spontaneous membrane fusion and endocytosis. **Molecular pharmaceuticals**
- Escoffre, J. M., M. Hubert, J. Teissie, M. P. Rols, and C. Favard. (2014) Evidence for electro-induced membrane defects assessed by lateral mobility measurement of a GPI anchored protein. **Eur Biophys J** 43:277-286
- Pasquet, L., E. Bellard, M. Golzio, M. P. Rols, and J. Teissie. (2014) A Double-Pulse Approach For Electrotransfection. **J Membr Biol**
- Escoffre JM, Bellard E, Faurie C, Sébaï SC, Golzio M, Teissie J, Rols MP. (2014) Membrane disorder and phospholipid scrambling in electropermeabilized and viable cells. **Biochim Biophys Acta** 1838:1701-1709
- Gibot L, Lemelle A, Till U, Moukarzel B, Mingotaud AF, Pimienta V, Saint-Aguet P, Rols MP, Gaucher M, Violleau F, Chassenieux C, Vicendo P. (2014) Polymeric Micelles Encapsulating Photosensitizer: Structure/Photodynamic Therapy Efficiency Relation. **Biomacromolecules** 15:1443-1455

- Martínez O, Bellard E, Golzio M, Mechiche-Alami S, Rols MP, Teissié J, Ecochard V, Paquereau L. (2014) Direct Validation of Aptamers as Powerful Tools to Image Solid Tumor. *Nucleic Acid Ther*24:217-225
- Golzio, M. and Teissie J. (2014). siRNA delivery via electropulsation: a review of the basic processes. *Methods Mol Biol* 1121: 81-98
- Teissie, J. and Golzio M. (2014). Direct imaging of siRNA electrotransfer at the single-cell level. *Methods Mol Biol* 1121: 121-130

## 2013

- Rosazza C, Buntz A, Rieß T, Wöll D, Zumbusch A, Rols MP. (2013) Intracellular tracking of single-plasmid DNA particles after delivery by electroporation. *Mol Ther.* 21(12):2217-26
- Orio J, Bellard E, Baaziz H, Pichon C, Mouritzen P, Rols MP, Teissié J, Golzio M, Chabot S. (2013) Sub-cellular temporal and spatial distribution of electrotransferred LNA/DNA oligomer. *J RNAi Gene Silencing* 9:479-85
- Chabot S, Pelofy S, Teissié J, Golzio M. (2013) Delivery of RNAi-Based Oligonucleotides by Electroporation. *Pharmaceuticals (Basel)* 10;6(4):510-21
- Chopinet L, Batista-Napotnik T, Montigny A, Rebersek M, Teissié J, Rols M-P, Miklavčič D. (2013) Nanosecond electric pulses effects on gene expression. *Journal of Membrane Biology* 246(11):851-9
- Gibot L, Auger FA, Lacroix D. (2013) The Pivotal Role of Vascularization in Tissue Engineering. *Annu Rev Biomed Eng* In press
- Gibot L, Rols MP. (2013) 3D Spheroids' Sensitivity to Electric Field Pulses Depends on Their Size. *J Membr Biol* 246(10):745-50
- Chopinet L, Roduit C, Rols MP, Dague E. (2013) Destabilization induced by electroporation analyzed by atomic force microscopy. *Biochim Biophys Acta* 1828(9):2223-9
- Gibot L, Rols MP. (2013) Progress and Prospects: The Use of 3D Spheroid Model as a Relevant Way to Study and Optimize DNA Electrotransfer. *Curr Gene Ther* 13(3):175-81
- Chabot S, Rosazza C, Golzio M, Zumbusch A, Teissié J, Rols MP. (2013) Nucleic acids electro-transfer: from bench to bedside. *Curr Drug Metab* 14(3):300-8
- Chopinet L, Formosa C, Rols MP, Duval RE, Dague E. (2013) Imaging living cells surface and quantifying its properties at high resolution using AFM in QI™ mode. *Micron* 48:26-33
- Gibot L, Wasungu L, Teissié J, Rols MP. (2013) Antitumor drug delivery in multicellular spheroids by electroporation. *J Control Release* 167(2):138-147
- Chabot S, Orio J, Schmeer M, Schlee M, Golzio M, Teissié J. (2013) Minicircle DNA electrotransfer for efficient tissue-targeted gene delivery. *Gene Ther* 20(1):62-8

## 2012

- Bellard E, Markelc B, Pelofy S, Le Guerroué F, Sersa G, Teissié J, Cemazar M, Golzio M. (2012) Intravital microscopy at the single vessel level brings new insights of vascular modification mechanisms induced by electroporation. *J Control Release* 163(3):396-403
- Chabot S, Rosazza C, Golzio M, Zumbusch A, Teissié J, Rols MP. (2012) Nucleic Acids Electro-transfer: From Bench to Bedside. *Curr Drug Metab.*
- Portet T, Mauroy C, Démery V, Houles T, Escoffre JM, Dean DS, Rols MP. (2012) Destabilizing giant vesicles with electric fields: an overview of current applications. *J Membr Biol.* 245(9):555-64.
- Escoffre JM, Nikolova B, Mallet L, Henri J, Favard C, Golzio M, Teissie J, Tsoneva I, Rols MP. (2012) New insights in the gene electrotransfer process: evidence for the involvement of the plasmid DNA topology. *Curr Gene Ther.* 12(5):417-22
- Mauroy C, Portet T, Winterhalder M, Bellard E, Blache MC, Teissié J, Zumbusch A, Rols MP. (2012) Giant lipid vesicles under electric field pulses assessed by non invasive imaging. *Bioelectrochemistry.* 87:253-9
- Pelofy S, Teissié J, Golzio M, Chabot S. (2012) Chemically modified oligonucleotide-increased stability negatively correlates with its efficacy despite efficient electrotransfer. *J Membr Biol.* 245(9):565-71
- Chabot S, Bellard E, Nielsen SJ, Orio J, Castanier R, Golzio M, Teissié J. (2012) LNA-based oligonucleotide electrotransfer for miRNA inhibition. *Mol Ther.* 20(8):1590-8
- Escoffre JM, Rols MP. (2012) Electrochemotherapy: Progress and Prospects. *Curr Pharm Des*18(23):3406-15

- Mauroy C, Castagnos P, Blache MC, Teissié J, Rico-Lattes I, Rols MP, Blanzat M. (2012) Interaction between GUVs and cationic nanocontainers: new insight into spontaneous membrane fusion. *Chem Commun* 48(53):6648-50
- Golzio M, Escoffre JM, Teissié J. (2012) shRNA-mediated gene knockdown in skeletal muscle. *Methods Mol Biol* 798:491-501
- Teissié J, Escoffre JM, Paganin A, Chabot S, Bellard E, Wasungu L, Rols MP, Golzio M. (2012) Drug delivery by electropulsation: Recent developments in oncology. *Int J Pharm* 423(1):3-6
- Rosazza C, Phez E, Escoffre JM, Cézanne L, Zumbusch A, Rols MP. (2012). Cholesterol implications in plasmid DNA electrotransfer: Evidence for the involvement of endocytotic pathways. *Int J Pharm* 423(1):134-43
- Tamzali Y, Borde L, Rols MP, Golzio M, Lyazrhi F, Teissie J. (2012). Successful treatment of equine sarcoids with cisplatin electrochemotherapy: A retrospective study of 48 cases. *Equine Vet J* 44(2):214-20

## 2011

- Martínez O, Ecochard V, Mahéo S, Gross G, Bodin P, Teissié J, Escudier JM, Paquereau L. (2011)  $\alpha,\beta$ -D-constrained nucleic acids are strong terminators of thermostable DNA polymerases in polymerase chain reaction. *PLoS One* 6(10)
- Chabot S, Pelofy S, Paganin-Gioanni A, Teissie J, Golzio M. (2011) Electrotransfer of RNAi-based oligonucleotides for oncology. *Anticancer Res* 31(12):4083-9
- Paganin-Gioanni A, Bellard E, Escoffre JM, Rols MP, Teissié J and Golzio M. (2011) Direct visualization at the single-cell level of siRNA electrotransfer into cancer cells. *PNAS* 108(26):10443-10447
- Cemazar M, Golzio M, Sersa G, Escoffre JM, Coer A, Vidic S, Teissie J. (2011). Hyaluronidase and collagenase increase the transfection efficiency of gene electrotransfer in different murine tumors. *Hum Gene Ther* 23(1):128-37
- Portet T; Favard C; Teissie J, Dean D and Rols M-P. (2011). Insights into the mechanisms of electromediated gene delivery and application to the loading of giant vesicles with negatively charged macromolecules. *Soft Matter* 7(8):3872-3881
- Wasungu, L; Marty, AL; Bureau, MF, Kichler A, Bessodes M, Teissie J, Scherman D, Rols MP. (2011). Pre-treatment of cells with pluronic L64 increases DNA transfection mediated by electrotransfer. *J Control Release* 149(2):117-125
- Chabot S, Jabrane-Ferrat N, Bigot K, Tabiasco J, Provost A, Golzio M, Noman MZ, Giustiniani J, Bellard E, Brayer S, Aguerre-Girr M, Meggetto F, Giuriato S, Malecaze F, Galiacy S, Jaïs JP, Chose O, Kadouche J, Chouaib S, Teissié J, Abitbol M, Bensussan A, Le Bouteiller P. (2011). A novel antiangiogenic and vascular normalization therapy targeted against human CD160 receptor. *J Exp Med* 208(5):973-86
- Chopinet L, Wasungu L, Rols MP. (2011). First explanations for differences in electrotransfection efficiency in vitro and in vivo using spheroid model. *Int J Pharm*
- Rosazza C, Escoffre JM, Zumbusch A, Rols MP. (2011). The Actin Cytoskeleton Has an Active Role in the Electrotransfer of Plasmid DNA in Mammalian Cells. *Mol Ther* 19(5):913-21

## 2010

- Mignet, N; Vandermeulen, G; Pembouong, C Largeau, B Thompson, M-V Spanedda, L Wasungu, M-P Rols, M Bessodes, M. Bureau, V Pr eat, D Scherman. (2010). Cationic and anionic lipoplexes inhibit gene transfection by electroporation in vivo. *J Gen Med* 12(6):491-500
- Pchejetski D, Bohler T, Brizuela L, Sauer L, Doumerc N, Golzio M, Salunkhe V, Teissié J, Malavaud B, Waxman J, Cu villier O. (2010). FTY720 (fingolimod) sensitizes prostate cancer cells to radiotherapy by inhibition of sphingosine kinase-1. *Cancer Res* 70(21):8651-61
- Golzio M, Teissié J. (2010). Direct assay of electropermeabilization in a 2D pseudo tissue. *Phys Chem Chem Phys* 12(44):14670-2
- Escoffre JM, Portet T, Favard C, Teissié J, Dean DS, Rols MP. (2010). Electromediated formation of DNA complexes with cell membranes and its consequences for gene delivery. *Biochim Biophys Acta*
- Escoffre JM, Kaddur K, Rols MP, Bouakaz A. (2010) In vitro gene transfer by electrosonoporation. *Ultrasound Med Biol* 36(10):1746-55
- Rols MP. (2010). Gene transfer by electrical fields. *Curr Gene Ther* 10(4):255
- Escoffre JM, Teissié J, Rols MP. (2010). Gene transfer: how can the biological barriers be overcome? *J Membr Biol* 236(1):61-74

- Golzio M, Escoffre JM, Portet T, Mauroy C, Teissié J, Dean DS, Rols MP. (2010). Observations of the mechanisms of electromediated DNA uptake—from vesicles to tissues. **Curr Gene Ther** 10(4):256-66 Review
- Faurie C, Rebersek M, Golzio M, Kanduser M, Escoffre JM, Pavlin M, Teissie J, Miklavcic D, Rols MP. (2010). Electro-mediated gene transfer and expression are controlled by the life-time of DNA/membrane complex formation. **J Gene Med** 12(1):117-25
- Aurélie Paganin-Gioanni, Elisabeth Bellard, Laurent Paquereau, Vincent Ecochard, Muriel Golzio and Justin Teissié. (2010). Fluorescence imaging agents in cancerology. **Radiology and Oncology** 44 (3):142-148.

## 2009

- Escoffre JM, Bellard E, Golzio M, Teissié J, Rols MP. (2009). Transgene expression of transfected supercoiled plasmid DNA concatemers in mammalian cells. **J Gene Med** 11(11):1071-3
- Wasungu, L., Escoffre, J.M., Valette, A., Teissie, J., and Rols, M.P. (2009). A 3D in vitro spheroid model as a way to study the mechanisms of electroporation. **Int J Pharmaceutics** 379(2):278-84
- Portet, T., Cifebrer, F., Escoffre, J.M., Favard, C., Rols, M.P., and Dean, D.S. (2009). Visualization of lipid expulsion during the shrinkage of giant vesicles under electropulsation. **Biophys J** 96(10):4109-21
- Mazeris, S., Sel, D., Golzio, M., Tamzali, Y., Miklavcic, D., and Teissie, J. (2009). Non invasive contact electrodes for in vivo localized cutaneous electropulsation and associated drug and nucleic acid delivery. **Journal of Controlled Release** 134:125-31
- Cemazar, M., Golzio, M., Sersa, G., Hojman, P., Kranjc, S., Mesojednik, S., Rols, M. P., and Teissie, J. (2009). Control by pulse parameters of DNA electrotransfer into solid tumors in mice. **Gene Ther** 16:635-44
- Luminita Damian, Claire Marty-Detraves, Mathias Winterhalter, Didier Fournier, Laurent Paquereau. (2009). Single strand DNA translation initiation step analyzed by Isothermal Titration Calorimetry. **BBRC** J385 (3): 296-301

## 2008

- Stojan, J., Ladurantie, C., Siadat, O.R., Paquereau, L., and Fournier, D. (2008). Evidence for subdomain flexibility in drosophila melanogaster acetylcholinesterase. **Biochemistry** 47:5599-607
- Escoffre, J. M., Portet, T., Wasungu, L., Teissie, J., Dean, D., and Rols, M. P. (2008). What is (Still not) Known of the Mechanism by Which Electroporation Mediates Gene Transfer and Expression in Cells and Tissues. **Mol Biotechnol** 41:286-295
- Teissié, J., Escoffre, J.M., Rols, M.P., and Golzio, M. (2008). Time dependence of electric field effects on cell membranes. A review for a critical selection of pulse duration for therapeutical applications. **Radiol Oncol** 42:1-11
- Paganin-Gioanni, A., Bellard, E., Couderc, B., Teissié, J., and Golzio, M. (2008). Tracking in vitro and in vivo siRNA electrotransfer in tumor cells **JRGS** 4:281-288
- Escoffre, J.M., Debin, A., Reynes, J.P., Drocourt, D., Tiraby, G., Hellaudais, L., Teissie, J., and Golzio, M. (2008). Long-lasting In vivo Gene Silencing by Electrotransfer of shRNA Expressing Plasmid. **Technol Cancer Res Treat** 7:109-16
- Pucihar, G., Kotnik, T., Miklavcic, D., and Teissié, J. (2008). Kinetics of transmembrane transport of small molecules into electropermeabilized cells. **Biophys J** 95:2837-48
- Bessière D., Lacroix C., Campagne S., Ecochard V., Guillet V., Mourey L., Lopez F., Czaplicki J., Demange P., Milon A., Girard J.P. and Gervais V. (2008). Structure-function analysis of the THAP-zinc finger of THAP1, a large C2H2 DNA-binding module linked to Rb/E2F pathways. **J Biol Chem** 283: 4352-4363
- Stojan J., Ladurantie C., Siadat O., Paquereau L., Fournier D. (2008). Evidence for subdomain flexibility in drosophila melanogaster acetylcholinesterase. **Biochemistry** 47(20):5599-607

## 2007

- Germain, M., Paquereau, L., Winterhalter, M., Hocheplied, J.F., and Fournier, D. (2007). Liposomes : support à la formation de capsules plus stables à base de polyélectrolytes réticulés ou de silice. **Ann Pharm Fr** 65:134-141

- Denis-Quanquin, S., Lamouroux, L., Lougarre, A., Maheo, S., Saves, I., Paquereau, L., Demange, P., and Fournier D. (2007). Protein expression from synthetic genes: Selection of clones using GFP. *J Biotechnol* 131:223-230
- Teissie, J. (2007). Biophysical effects of electric fields on membrane water interfaces: a minireview. *Eur Biophys J* 36:967-72
- Golzio, M., Mazzolini, L., Ledoux, A., Paganin, A., Izard, M., Hellaudais, L., Bieth, A., Pillaire, M.J., Cazaux, C., Hoffmann, J.S., Couderc, B., and Teissié, J. (2007). In vivo gene silencing in solid tumors by targeted electrically mediated siRNA delivery. *Gene Ther* 14:752-9
- Escoffre, J. M., Dean, D.S., Hubert, M., Rols, M.P. , and Favard, C. (2007). Membrane perturbation by an external electric field: a mechanism to permit molecular uptake. *Eur Biophys J* 36:973-983
- Favard, C., Dean, D.S., and Rols, M.P. (2007). Electrotransfer as a non viral method of gene delivery. *Curr Gene Ther* 7:67-77
- Pedron-Mazoyer, S., Plouet, J., Hellaudais, L., Teissie, J., and Golzio, M. (2007). New anti angiogenesis developments through electro-immunization: optimization by in vivo optical imaging of intradermal electrogenetransfer. *Biochim Biophys Acta* 1770 :137-42
- Pucihar, G., Kotnik, T., Miklavcic, D., and Teissie, J. (2007). Electropermeabilization of dense cell suspensions. *Eur Biophysics J* 36:173-185
- Cayrol C., Lacroix C., Mathe C., Ecochard V., Ceribelli M., Loreau E., Lazar V., Dessen P., Mantovani R., Aguilar L. and Girard J.P. (2007). The THAP-zinc finger protein THAP1 regulates endothelial cell proliferation through modulation of pRB/E2F cell-cycle target genes. *Blood* 109:584-594
- Denis-Quanquin S., Lamouroux L., Lougarre A., Maheo S., Saves I., Paquereau L., Demange P., Fournier D. (2007). Protein expression from synthetic genes: Selection of clones using GFP. *J. Biotechnol.* 131: 223-230.
- Germain M, Paquereau L., Winterhalter M., Hochepped J.-F., Fournier D. (2007). Liposomes : support à la formation de capsules plus stables à base de polyélectrolytes réticulés ou de silice. *Ann Pharm fr* 65 (2): 134-141

## 2006

- Ruyschaert, T., Paquereau L., Winterhalter, M., and Fournier, D. (2006). Stabilization of liposomes through enzymatic polymerization of DNA. *Nano Letters* 6:2755-2757
- Cemazar, M., Golzio, M., Escoffre, J.M., Couderc, B., Sersa, G., and Teissié , J. (2006). In vivo imaging of tumor growth after electrochemotherapy with cisplatin. *Biochem Biophys Res Comm* 348:997-1002
- Cemazar, M., Golzio, M., Sersa, G., Rols, M.P., and Teissié , J. (2006). Electrically-assisted Nucleic Acids Delivery to Tissues In Vivo: Where Do We Stand? *Current Pharmaceutical Design* 12:3817-25
- Rols, M.P. (2006). Electropermeabilization, a physical method for the delivery of therapeutic molecules into cells. *Biochim Biophys Acta (Biomembranes)* 1758:423-428
- Ganeva, V., Galutzo, B., and Teissié, J. (2006). Irreversibly electropermeabilized yeast retains the capability for ATP synthesis via oxidative phosphorylation. *Bioelectrochemistry* 68:27-30
- Ruyschaert T., Paquereau L., Winterhalter M., Fournier D. (2006). Stabilization of liposomes through enzymatic polymerization of DNA. *Nano Letters* 6(12): 2755-2757

## 2005

- Damian, L., Fournier, D., Winterhalter, M., and Paquereau, L. (2005). Determination of thermodynamic parameters of Xerocomus Chrysenteron Lectin interactions with N-acetylgalactosamine and Thomsen-Friedenreich antigen by Isothermal Titration Calorimetry *BMC Biochemistry* 6:11
- Faurie, C., Golzio, M., Phez, E., Teissié, J., and Rols M.P. (2005). Electric field induced cell membrane permeabilization and gene transfer: Theory and Experiments. *Eng Life Sci* 5:1-8
- Teissié, J., Golzio, M., and Rols, M.P. (2005). Mechanisms of Cell membrane Electropermeabilization : A minireview of our present (lack of ?) knowledge. *BBA - General Subjects Special Issue:Biophysics Complex Systems* 1724:270-280
- Phez, E., Faurie, C., Golzio, M. Teissié, J., and Rols M.P. (2005). New insights in the visualization of membrane permeabilization and DNA/membrane interaction of cells submitted to electric pulses. *BBA- General Subjects Special Issue:Biophysics Complex Systems* 1724:248-254

- Golzio, M., Mazzolini, L. Moller P., Rols M.P., and Teissié, J. (2005). Inhibition of gene expression in mice muscle by in vivo electrically mediated siRNA delivery. **Gene Therapy** 12:246-251
- Clouaire T, Ecochard V, Roussigne M, Mathe C, Amalric F and Girard JP. (2005). The THAP domain of THAP1 is a large C2CH module with zinc-dependent sequence-specific DNA binding activity. **PNAS** 102: 6907-6912

## COLLABORATIVE PUBLICATIONS

- Carayon, C., Ghodbane A., Gibot L., Dumur R., Wang J., Saffon N., Rols M.P., Solntsev K.M., Fery-Forgues S. (2016). Conjugates of Benzoxazole and GFP Chromophore with Aggregation-Induced Enhanced Emission: Influence of the Chain Length on the Formation of Particles and on the Dye Uptake by Living Cells. **Small** 12(47): 6602-6612
- Till U., Gibot L., Mingotaud A.F., Ehrhart J., Wasungu L., Mingotaud C., Souchard J.P., Poinso A., Rols M.P., Violleau F., Vicendo P. (2016). Drug Release by Direct Jump from Poly(ethylene-glycol-b- $\epsilon$ -caprolactone) Nano-Vector to Cell Membrane. **Molecules**. 30:21(12)
- Josserand, V., Keramidias M., Lavaud J., Righini C., Vollaie J., Bellard E., Rols M.P., Teissié J., Coll J.L., Golzio M. (2016). Electrochemotherapy guided by intraoperative fluorescence imaging for the treatment of inoperable peritoneal micro-metastases. **J Control Release** 233: 81-87
- Till U., Gibot L., Vicendo P., Rols M.P., Gaucher M., Violleau F., Mingotaud A.F. (2016) Crosslinked polymeric self-assemblies as an efficient strategy for photodynamic therapy on a 3D cell culture. **RSC Adv.** 6, 69984-69998
- Till U., Gibot L., Mingotaud C., Vicendo P., Rols M.P., Gaucher M., Violleau F., Mingotaud A.F. (2016) Self-assembled polymeric vectors mixtures: characterization of the polymorphism and existence of synergistic effects in photodynamic therapy. **Nanotechnology** 27:315102
- Rols M.P., Miklavcic D. (2016) Editorial: Gene Transfer by Electric Fields. **Curr Gene Ther.** 16:73-4
- Kamensek U., Rols M.P., Cemazar M., Golzio M. (2016) Visualization of Nonspecific Antitumor Effectiveness and Vascular Effects of Gene Electro-Transfer to Tumors. **Curr Gene Ther.** 16:90-7
- Rosazza C., Meglic S.H., Zumbusch A., Rols M.P., Miklavcic D. (2016) Gene Electrotransfer: A Mechanistic Perspective. **Curr Gene Ther.** 16:98-129
- Kulbacka J., Pucek A., Kotulska M., Dubińska-Magiera M., Rossowska J., Rols M.P., Wilk K.A. (2016) Electroporation and lipid nanoparticles with cyanine IR-780 and flavonoids as efficient vectors to enhanced drug delivery in colon cancer. **Bioelectrochemistry**
- Rosazza C., Deschout H., Buntz A., Braeckmans K., Rols M.P., Zumbusch A. (2016) Endocytosis and Endosomal Trafficking of DNA After Gene Electrotransfer In Vitro. **Mol Ther Nucleic Acids**
- Laurent V., Guerard A., Mazerolles C., Le Gonidec S., Toulet A., Nieto L., Zaidi F., Majed B., Garandeau D., Socrier Y., Golzio M., Cadoudal T., Chaoui K., Dray C., Monsarrat B., Schiltz O., Wang Y.Y., Couderc B., Valet P., Malavaud B., Muller C. (2016) Periprostatic adipocytes act as a driving force for prostate cancer progression in obesity. **Nature communications** 7: 10230
- Lazar I., Clement E., Dauvillier S., Milhas D., Ducoux-Petit M., LeGonidec S., Moro C., Soldan V., Dalle S., Balor S., Golzio M., Burlet-Schiltz O., Valet P., Muller C., Nieto L. (2016). Adipocyte Exosomes Promote Melanoma Aggressiveness through Fatty Acid Oxidation: A Novel Mechanism Linking Obesity and Cancer. **Cancer Res** 76(14): 4051-4057
- Ader I., Gstalder C., Bouquerel P., Golzio M., Andrieu G., Zalvidea S., Richard S., Sabbadini R.A., Malavaud B., Cuvillier O. (2015) Neutralizing S1P inhibits intratumoral hypoxia, induces vascular remodelling and sensitizes to chemotherapy in prostate cancer. **Oncotarget** 6:13803-13821
- Ceolato R., Golzio M., Riou C., Orlik X., Riviere N. (2015) Spectral degree of linear polarization of light from healthy skin and melanoma. **Optics Express** 23:13605-13612
- Dirat B., Ader I., Golzio M., Massa F., Mettouchi A., Laurent K., Larbret F., Malavaud B., Cormont M., Lemichez E., Cuvillier O., Tanti J.F., Bost F. (2015) Inhibition of the GTPase Rac1 Mediates the Antimigratory Effects of Metformin in Prostate Cancer Cells **Molecular cancer therapeutics** 14:586-596
- Frandsen S.K., Gibot L., Madi M., Gehl J., Rols M.P. (2015) Calcium Electroporation: Evidence for Differential Effects in Normal and Malignant Cell Lines, Evaluated in a 3D Spheroid Model. **PLoS One** 10

- Rebersek M., Marjanovic I., Begus S., Pillet F., Rols M.P., Miklavcic D., Kotnik T. (2015) Generator and Setup for Emulating Exposures of Biological Samples to Lightning Strokes. *IEEE T Bio-Med Eng* 62:2535-2543
- Formosa C., Lachaize V., Gales C., Rols M.P., Martin-Yken H., Francois J.M., Duval R.E., Dague E. (2015) Mapping HA-tagged protein at the surface of living cells by atomic force microscopy. *Journal of Molecular Recognition* 28:1-9
- Luengo E., Martínez J.M., Coustets M., Álvarez I., Teissié J., Rols M.P., Raso J. (2015) A Comparative Study on the Effects of Millisecond- and Microsecond-Pulsed Electric Field Treatments on the Permeabilization and Extraction of Pigments from *Chlorella vulgaris*. *J Membr Biol.* 248:883-891
- Wezgowiec J, Kotulska M, Saczko J, Derylo MB, Teissie J, Rols MP, Orio J, Garbiec A, Kulbacka J. (2013) Cyanines in photodynamic reaction assisted by reversible electroporation—in vitro study on human breast carcinoma cells. *Photodiagnosis Photodyn Ther.* 10(4):490-502
- Wezgowiec J, Derylo MB, Teissie J, Orio J, Rols MP, Kulbacka J, Saczko J, Kotulska M. (2013) Electric field-assisted delivery of photofrin to human breast carcinoma cells. *J Membr Biol.* 246(10):725-35
- Haberl S, Kanduđer M, Flisar K, Hodžić D, Bregar VB, Miklavčič D, Escoffre JM, Rols MP, Pavlin M. (2013) Effect of different parameters used for in vitro gene electrotransfer on gene expression efficiency, cell viability and visualization of plasmid DNA at the membrane level. *J Gene Med.* 15(5):169-81
- Castells M, Thibault B, Mery E, Golzio M, Pasquet M, Hennebelle I, Bourin P, Mirshahi M, Delord JP, Querleu D, Couderc B. (2012) Ovarian ascites-derived Hospicells promote angiogenesis via activation of macrophages. *Cancer Lett.* 326(1):59-68
- Markelc B, Bellard E, Sersa G, Pelofy S, Teissie J, Coer A, Golzio M, Cemazar M. (2012) In vivo molecular imaging and histological analysis of changes induced by electric pulses used for plasmid DNA electrotransfer to the skin: a study in a dorsal window chamber in mice. *J Membr Biol.* 245(9):545-54
- Bureau MF, Wasungu L, Jugé L, Scherman D, Rols MP, Mignet N. (2012) Investigating relationship between transfection and permeabilization by the electric field and/or the Pluronic® L64 in vitro and in vivo. *J Gene Med* 14(3):204-15
- Mery E, Jouve E, Guillermet S, Bourgognon M, Castells M, Golzio M, Rizo P, Delord JP, Querleu D, Couderc B. (2011). Intraoperative fluorescence imaging of peritoneal dissemination of ovarian carcinomas. A preclinical study. *Gynecol Oncol* 122(1):155-62
- Pchejetski D, Bohler T, Brizuela L, Sauer L, Doumerc N, Golzio M, Salunkhe V, Teissié J, Malavaud B, Waxman J, Cuvillier O. (2010). FTY720 (fingolimod) sensitizes prostate cancer cells to radiotherapy by inhibition of sphingosine kinase-1. *Cancer Res* 70(21):8651-61
- Brizuela L, Dayon A, Doumerc N, Ader I, Golzio M, Iazard JC, Hara Y, Malavaud B, Cuvillier O. (2010). The sphingosine kinase-1 survival pathway is a molecular target for the tumor-suppressive tea and wine polyphenols in prostate cancer. *FASEB J* 24(10):3882-94.
- Pasquet M, Golzio M, Mery E, Rafii A, Benabbou N, Mirshahi P, Hennebelle I, Bourin P, Allal B, Teissie J, Mirshahi M, Couderc B. (2010). Hospicells (ascites-derived stromal cells) promote tumorigenicity and angiogenesis. *Int J Cancer* 1;126(9):2090-101.
- Dayon A, Brizuela L, Martin C, Mazerolles C, Piro N, Doumerc N, Nogueira L, Golzio M, Teissié J, Serre G, Rischmann P, Malavaud B, Cuvillier O. (2009). Sphingosine kinase-1 is central to androgen-regulated prostate cancer growth and survival. *PLoS One* 4(11):e8048
- Andre, F., Gehl, J., Sersa, G., Preat, V., Hojman, P., Eriksen, J., Golzio, M., Cemazar, M., Pavselj, N., Rols, M.P., Miklavcic, D., Neumann, E., Teissie, J., and Mir, L.M. (2008). Efficiency of high and low voltage pulse combinations for gene electrotransfer in muscle, liver, tumor and skin. *Hum Gene Ther* 19(11):1261-71
- Pchejetski, D., Doumerc, N., Golzio, M., Naymark, M., Teissié, J., Kohama, T., Waxman, J., Malavaud, B., and Cuvillier, O. (2008). Chemosensitizing effects of sphingosine kinase-1 inhibition in prostate cancer cell and animal models. *Mol Cancer Ther* 7:1836-45
- Cemazar, M., Sersa, G., Tozon, N., Mir, L., Miklavcic, D., Lowe, R., Teissie, J., and Tamzali, Y. (2008). Electrochemotherapy in veterinary oncology. *J Vet Intern Med* 22:826-31
- Meloni, G., Sonois, V., Delaine, T., Guilloureau, L., Gillet, A., Teissié, J., Faller, P., and Vašák M. (2008). Metal swap between Zn7metallothionein-3 and amyloid-β-Cu protects against amyloid-β toxicity. *Nat Chem Biol* 4:366-72
- Couderc, B., Pradines, A., Rafii, A., Golzio, M., Deviers, A., Allal, C., Berg, D., Penary, M., Teissie, J., and Favre, G. (2008). In vivo restoration of RhoB expression leads to ovarian tumor regression. *Cancer Gene Ther* 15:456-64
- Rebersek, M., Faurie, C., Kanduser, M., Corovic, S., Teissie, J., Rols, M.P., and Miklavcic, D. (2007). Electroporator with automatic change of electric field direction improves gene electrotransfer in vitro *Biomed Eng OnLine* 6:25

- Allera-Moreau, C., Delluc-Clavieres, A., Castano, C., Van den Berghe, L., Golzio, M., Moreau, M., Teissie, J., Arnal, J.F., and Prats, A.C. (2007). Long term expression of bicistronic vector driven by the FGF-1 IRES in mouse muscle. ***BMC Biotechnol*** 7:74
- Jaber, K., Francis, F., Paquereau, L., Fournier, D., and Haubruge, E. (2007). Effect of a fungal lectin from *Xerochomus chrysenferon* (XCL) on the biological parameters of aphids. ***Commun Agric Appl Biol Sci*** 72:629-38
- Jaber, K., Paquereau, L., Fournier, D., Haubruge, E., and Francis, F. (2006). Use of artificial diet system to assess the potential bio-insecticide effect of a fungal lectin from *Xerochomus chrysenferon* (XCL) on *Myzus persicae*. ***Commun Agric Appl Biol Sci*** 71:497-505
- Renault, M., Réat, V., Sugawara, M., Demange, P., Phez, E., Teissie, J., Piotto, M. and Milon, A. (2006). Giant vesicles as an efficient intermediate for <sup>2</sup>H NMR analyses of proteo-liposomes in water suspension and in oriented lipid bilayers. ***CR Chimie*** 9:401-407
- Pchejetski, D., Golzio, M., Bonhoure, E., Calvet, C., Doumerc, N., Garcia, V., Mazerolles, C., Rischmann, P., Teissie, J., Malavaud, B., and Cuvillier, O. (2005). Sphingosine kinase-1 as a chemotherapy sensor in prostate adenocarcinoma cell and mouse models. ***Cancer Res*** 65:11667-75