

Journal of Environmental Pathology, Toxicology, and Oncology

Tables of Contents

Volume 25, 2006 Issues 1-2, 1–535; Issue 3, 537–610; Issue 4, 611–700

VOLUME 25, ISSUES 1-2

| | |
|--|-----|
| Editorial: Photodynamic Therapy and Detection <i>Qian Peng</i> | 1 |
| Biophysical Aspects of Photodynamic Therapy <i>Asta Juzeniene, Kristian Pagh Nielsen, & Johan Moan</i> | 7 |
| Singlet Oxygen in Photosensitization <i>Petras Juzenas & Johan Moan</i> | 29 |
| Hydrogen Peroxide, Superoxide, and Hydroxyl Radicals are Involved in the Phototoxic Action of Hematoporphyrin Derivative against Tumor Cells <i>Lyudmila V. Chekulayeva, Igor N. Shevchuk, Vladimir A. Chekulayev, & Kaja Ilmarinen</i> | 51 |
| An Overview of Synthetic Approaches to Porphyrin, Phthalocyanine and Phenothiazine Photosensitisers for PhotoDynamic Therapy <i>Stephen A. Gorman, Stanley B. Brown, & John Griffiths</i> | 79 |
| New Derivatives of 5-Aminolevulinic Acid for Photodynamic Therapy: Chemical Synthesis and Porphyrin Production in In Vitro and In Vivo Biological Systems <i>Aslak Godal, Nils O. Nilsen, Jo Klaveness, Jon Erik Brænden, Jahn M. Nesland, & Qian Peng</i> | 109 |
| Use of ALA and ALA Derivatives for Optimizing ALA-based Photodynamic Therapy: A Review of Our Experience <i>Haydée Fukuda, Adriana Casas, & Alcira Batlle</i> | 127 |
| Regulation of Porphyrin Synthesis and Photodynamic Therapy in Heavy Metal Intoxication <i>Borislava Grinblat, Nir Pour, & Zvi Malik</i> | 145 |
| Induction of Apoptosis by Hexaminolevulinate-Mediated Photodynamic Therapy in Human Colon Carcinoma Cell Line 320DM <i>Susan Shahzidi, Trond Stokke, Hela Soltani, Jahn M. Nesland, & Qian Peng</i> | 159 |
| Characterization of Apoptosis Induced by Photodynamic Treatment with Hypericin in A431 Human Epidermoid Carcinoma Cells <i>Juergen Berlanda, Tobias Kiesslich, Christian Benno Oberdanner, Franz Josef Obermair, Barbara Krammer, & Kristjan Plaetzer</i> | 173 |

| | |
|--|-----|
| Deposition of Complement Proteins on Cells Treated by Photodynamic Therapy in Vitro <i>Ivana Cecic & Mladen Korbelik</i> | 189 |
| Photodynamic Effect of Curcumin on NPC/CNE2 Cells <i>H.K. Koon, Albert W.N. Leung, Kevin K.M. Yue, & Naiki K. Mak</i> | 205 |
| Comparison of Merocyanine 540-Mediated Photodynamic Action on Leukemia Cells between Pulsed and Continuous Wave Light Sources <i>Jiyao Chen, Naiki Mak, Wongneng Leung, Naihau Cheung, & Qian Peng</i> | 217 |
| Perylenequinones in Photodynamic Therapy: Cellular versus Vascular Response <i>Malini Olivo & W. L. William Chin</i> | 223 |
| Positron Emission Tomography Imaging of Tumor Response after Photodynamic Therapy <i>Veronique Bérard, Roger Lecomte, & Johan E. van Lier</i> | 239 |
| Avastin Enhances Photodynamic Therapy Treatment of Kaposi's Sarcoma in a Mouse Tumor Model <i>Angela Ferrario & Charles J. Gomer</i> | 251 |
| Repetitive Photodynamic Therapy of Malignant Brain Tumors <i>Henry Hirschberg, Dag R. Sørensen, Even Angell-Petersen, Qian Peng, Bruce Tromberg, Chung-Ho Sun, Signe Spetalen, & Steen Madsen</i> | 261 |
| Photoimmunotherapy for Cancer Treatment <i>Wei R. Chen, Zheng Huang, Mladen Korbelik, Robert E. Nordquist, & Hong Liu</i> | 281 |
| Mechanism of Radiosensitization by Porphyrins <i>Živilė Lukšienė, Danutė Labeikytė, Benediktas Juodka, & Johan Moan</i> | 293 |
| Spectroscopic Measurements of Photoinduced Processes in Human Skin after Topical Application of the Hexylester of 5-Aminolevulinic Acid <i>Lu Zhao, Kristian P. Nielsen, Asta Juzeniene, Petras Juzenas, Vladimir Iani, Li-wei Ma, Knut Stamnes, Jakob J. Stamnes, & Johan Moan</i> | 307 |
| Methods for Detailed Histopathological Investigation and Localization of Biopsies from Cervix Uteri to Improve the Interpretation of Autofluorescence Data <i>Sara Pålsson, Unne Stenram, Marcelo Soto Thompson, Aurelija Vaitkuvienė, Violeta Poskiene, Reda Ziobakiene, Jody Oyama, Michael J. DeWeert, Ulf Gustafsson, Niels Bendsoe, Stefan Andersson-Engels, Sune Svanberg, & Katarina Svanberg</i> | 321 |
| Fluorescence Diagnosis Using Enzyme-Related Metabolic Abnormalities of Neoplasia <i>Marino A. Campo & Norbert Lange</i> | 341 |

| | |
|--|-----|
| Updated Results of a Phase I Trial of Motexafin Lutetium-Mediated Interstitial Photodynamic Therapy in Patients with Locally Recurrent Prostate Cancer <i>Kosmas Verigos, Diana C. Hsiung Stripp, Rosemarie Mick, Timothy C. Zhu, Richard Whittington, Debbie Smith, Andreea Dimofte, Jarod Finlay, Theresa M. Busch, Zelig A. Tochner, S. Bruce Malkowicz, Eli Glatstein, & Stephen M. Hahn</i> | 373 |
| Facilitated Delivery of ALA to Inaccessible Regions via Bioadhesive Patch Systems <i>Ryan F. Donnelly, Paul A. McCarron, Li-Wei Ma, Petras Juzenas, Vladimir Iani, A. David Woolfson, Agnieszka A. Zawislak, & Johan Moan</i> | 389 |
| Pretreatment of Plantar Warts with Azone Enhances the Effect of 5-Aminolevulinic Acid Photodynamic Therapy <i>Piotr Ziółkowski, Beata J. Osiecka, Maciej Siewiński, Andrzej Bronowicz, Jolanta Ziółkowska, & Hanna Gerber-Leszczyszyn</i> | 403 |
| Photodynamic Therapy of Nodular Basal Cell Carcinoma with Multifiber Contact Light Delivery <i>Marcelo Soto Thompson, Stefan Andersson-Engels, Sune Svanberg, T. Johansson, Sara Pålsson, Niels Bendsoe, A. Derjabo, J. Kapostins, Unne Stenram, J. Spigulis, & Katarina Svanberg</i> | 411 |
| Fluorescence Diagnosis and Photodynamic Therapy in Dermatology: From Experimental State to Clinic Standard Methods <i>Clemens Fritsch & Thomas Ruzicka</i> | 425 |
| Photodynamic Applications in Superficial Bladder Cancer: Facts and Hopes! <i>Patrice Jichlinski</i> | 441 |
| Photodynamic Therapy and Detection of High-Grade Gliomas <i>Steen J. Madsen & Henry Hirschberg</i> | 453 |
| PDT in Clinics: Indications, Results, Markets <i>Thierry Patrice, David Olivier, & Ludovic Bourre</i> | 467 |
| Photodynamic Therapy as an Alternative Antimicrobial Modality for Oral Infections <i>Nurgül Kömeri & Alexander J. MacRobert</i> | 487 |
| Photodynamic Therapy of Microbial Infections: State of the Art and Perspectives <i>Giulio Jori</i> | 505 |
| Photochemical Internalization (PCI): A New Modality for Light Activation of Endocytosed Therapeutics <i>Andreas Dietze, Pål Kristian Selbo, Lina Prasmickaite, Anette Weyergang, Anette Bonsted, Birgit Engesæter, Anders Høgset, & Kristian Berg</i> | 521 |

VOLUME 25, ISSUE 3

- Regenerative Dental Medicine: Stem Cells and Tissue Engineering in Dentistry**
Jill A. Reed & Roberto Patarca 537
- Carcinogenicity and Chronic Toxicity of *Para*-Chloronitrobenzene in Rats and Mice by Two-Year Feeding**
Michiharu Matsumoto, Shigetoshi Aiso, Hideki Senoh, Kazunori Yamazaki, Heihachiro Arito, Kasuke Nagano, Seigo Yamamoto, & Taijiro Matsushima 571
- Inhibition of Prostacyclin Release by Cigarette Smoke Extract in Endothelial Cells is not Related to Enhanced Superoxide Generation and NADPH-Oxidase Activation**
M. Mahfouz, Zhou Qi, & F.A. Kummerow 585
- The Role of Zinc in Life: A Review**
Stefania Frassinetti, Giorgio Bronzetti, Leonardo Caltavuturo, Marco Cini, & Clara Della Croce 597

VOLUME 25, ISSUE 4

- Effects of *Aegle marmelos* (L.) Correa on the Peripheral Blood and Small Intestine of Mice Exposed to Gamma Radiation**
Ganesh Chandra Jagetia, Ponemone Venkatesh, Parampally Archana, Bhandarkar R. Krishnanand, & Manjeshwar Shrinath Baliga 611
- Electroporation Enhances Radiation and Doxorubicin-Induced Toxicity in Solid Tumor In Vivo**
Pratip Shil, Amit Kumar, Pandit B. Vidyasagar, & Kaushala P. Mishra 625
- Radioprotective Potential of *Rosemarinus officinalis* against Lethal Effects of Gamma Radiation : A Preliminary Study**
Archana Jindal, Dhanraj Soyala, Garima Sancheti, & Pradeep Kumar Goyal 633
- Emblica officinalis* (Linn.) Fruit Extract Provides Protection against Radiation-Induced Hematological and Biochemical Alterations in Mice**
Inder Singh, Dhanraj Soyala, & Pradeep Kumar Goyal 643
- Cell Membrane-Associated MT1-MMP Dependent Activation of MMP-2 in SiHa (Human Cervical Cancer) Cells**

| | |
|--|-----|
| <i>Aparna Mitra, Jayati Chakrabarti, Aniruddha Banerji, & Amitava Chatterjee</i> | 655 |
| Culture of Human Fibrosarcoma HT-1080 Cells in Presence of Fibronectin Activates MMP-2 | |
| <i>Jayati Chakrabarti, Aparna Mitra, Aniruddha Banerji, & Amitava Chatterjee</i> | 667 |
| Curcumin, a Potential Inhibitor of MMP-2 in Human Laryngeal Squamous Carcinoma Cells HEP2 | |
| <i>Aparna Mitra, Jayati Chakrabarti, Aniruddha Banerji, Amitava Chatterjee, & B. R. Das</i> | 679 |
| INDEX TO VOLUME 25 | 691 |

Journal of Environmental Pathology, Toxicology, and Oncology

Index to Authors

Volume 25, 2006 Issues 1-2, 1–535; Issue 3, 537–610; Issue 4, 611–700

- Aiso, Shigetoshi, 571
Andersson-Engels, Stefan, 321, 411
Angell-Petersen, Even, 261
Archana, Parampally, 611
Arito, Heihachiro, 571
- Baliga, Manjeshwar Shrinath, 611
Banerji, Aniruddha, 655, 667, 679
Batlle, Alcira, 127
Bendsoe, Niels, 321, 411
Bérard, Veronique, 239
Berg, Kristian, 521
Berlanda, Juergen, 173
Bonsted, Anette, 521
Bourre, Ludovic, 467
Brænden, Jon Erik, 109
Bronowicz, Andrzej, 403
Bronzetti, Giorgio, 597
Brown, Stanley B., 79
Busch, Theresa M., 373
- Caltavuturo, Leonard, 597
Campo, Marino A., 341
Casas, Adriana, 127
Cecic, Ivana, 189
Chakrabarti, Jayati, 655, 667, 679
Chatterjee, Amitava, 655, 667, 679
Chekulayev, Vladimir A., 51
Chekulayeva, Lyudmila V., 51
Chen, Jiyao, 217
Chen, Wei R., 281
Cheung, Naihou, 217
Chin, W. L. William, 223
Cini, Marco, 597
- Das, B. R., 679
Della Croce, Clara, 597
Derjabo, A., 411
DeWeert, Michael J., 321
Dietze, Andreas, 521
Dimofte, Andreea, 373
Donnelly, Ryan F., 389
- Engesæter, Birgit, 521
- Ferrario, Angela, 251
Finlay, Jarod, 373
Frassinetti, Stefania, 597
Fritsch, Clemens, 425
Fukuda, Haydée, 127
- Gerber-Leszczyszyn, Hanna, 403
Glatstein, Eli, 373
Godal, Aslak, 109
Gomer, Charles J., 251
Gorman, Stephen A., 79
Goyal, Pradeep Kumar, 633, 643
Griffiths, John, 79
Grinblat, Borislava, 145
Gustafsson, Ulf, 321
- Hahn, Stephen M., 373
Hirschberg, Henry, 261, 453
Høgset, Anders, 521
Hsiung Stripp, Diana C., 373
Huang, Zheng, 281
- Iani, Vladimir, 389
Ilmarinen, Kaja, 51
- Jichlinski, Patrice, 441
Jagetia, Ganesh Chandra, 611
Jindal, Archana, 633
Johansson, T., 411
Jori, Giulio, 505
Juodka, Benediktas, 293
Juzenas, Petras, 29, 307, 389
Juzeniene, Asta, 7, 307
- Kapostins, J., 411
Kiesslich, Tobias, 173
Klaveness, Jo, 109
Kömeri, Nurgül, 487
Koon, H.K., 205
Korbelik, Mladen, 189, 281
Krammer, Barbara, 173
Krishnanand, Bhandarkar R., 611
Kumar, Amit, 625

Kummerow, F.A., 585

 Labeikytė, Danutė, 293
 Lange, Norbert, 341
 Lani, Vladimir, 307

 Ma, Li-wei, 307
 Mishra, Kaushala P., 625
 Mitra, Aparna, 655, 667, 679
 Lecomte, Roger, 239
 Leung, Albert W.N., 205
 Leung, Wongneng, 217
 Liu, Hong, 281
 Lukšienė, Živilė, 293

 Ma, Li-Wei, 389
 MacRobert, Alexander J., 487
 Madsen, Steen J., 453
 Madsen, Steen, 261
 Mahfouz, M., 585
 Mak, Naiki K., 205
 Mak, Naiki, 217
 Malik, Zvi, 145
 Malkowicz, S. Bruce, 373
 Matsumoto, Michiharu, 571
 Matsushima, Taijiro, 571
 McCarron, Paul A., 389
 Mick, Rosemarie, 373
 Moan, Johan, 7, 29, 293, 307, 389

 Nagano, Kasuke, 571
 Nesland, Jahn M., 109, 159
 Nielsen, Kristian P., 7, 307
 Nilsen, Nils O., 109
 Nordquist, Robert E. 281

 Oberdanner, Christian Benno, 173
 Obermair, Franz Josef, 173
 Olivier, David, 467
 Olivo, Malini, 223
 Osiecka, Beata J., 403
 Oyama, Jody, 321

 Pålsson, Sara, 321, 411
 Patarca, Roberto, 537
 Patrice, Thierry, 467
 Peng, Qian, 1, 109, 159, 217, 261
 Plaetzer, Kristjan, 173
 Poskiene, Violeta, 321
 Pour, Nir, 145
 Prasmickaite, Lina, 521

 Qi, Zhou, 585

 Reed, Jill A., 537
 Ruzicka, Thomas, 425

 Sancheti, Garima, 633
 Soyala, Dhanraj, 633, 643
 Selbo, Pål Kristian, 521
 Senoh, Hideki, 571
 Shahzidi, Susan, 159
 Shevchuk, Igor N., 51
 Shil, Pratip, 625
 Singh, Inder, 643
 Siewiński, Maciej, 403
 Smith, Debbie, 373
 Soltani, Hela, 159
 Sørensen, Dag R., 261
 Soyala, Dhanraj, 633, 643
 Spetalen, Signe, 261
 Spigulis, J., 411
 Stamnes, Jakob J., 307
 Stamnes, Knut, 307
 Stenram, Unne, 321, 411
 Stokke, Trond, 159
 Sun, Chung-Ho, 261
 Svanberg, Katarina, 321, 411
 Svanberg, Sune, 321, 411

 Thompson, Marcelo Soto, 321, 411
 Tochner, Zelig A., 373
 Tromberg, Bruce, 261

 Vaitkuvienė, Aurelija, 321
 van Lier, Johan E., 239
 Venkatesh, Ponemone, 611
 Verigos, Kosmas, 373
 Vidyasagar, Pandit B., 625

 Weyergang, Anette, 521
 Whittington, Richard, 373
 Woolfson, A. David, 389

 Yamamoto, Seigo, 571
 Yamazaki, Kazunori, 571
 Yue, Kevin K.M., 205
 Zawislak, Agnieszka A., 389
 Zhao, Lu, 307
 Zhu, Timothy C., 373
 Ziobakiene, Reda, 321
 Ziolkowska, Jolanta, 403
 Ziolkowski, Piotr, 403

Journal of Environmental Pathology, Toxicology, and Oncology

Index to Subjects

Volume 25, 2006 Issues 1-2, 1–535; Issue 3, 537–610; Issue 4, 611–700

- α 5 β 1, 667
- 320 DM cell line, 159
- 5-aminolevulinic acid, 109, 127, 159, 389, 403
- A431 human epidermoid carcinoma, 173
- actinic keratose, 467
- activated oxygen, 505
- activation, 655
- Aegle marmelos*, 611
- age-related degenerescence, 467
- ALA derivative, 109
- ALA ester, 109, 127
- ALA, 109, 425
- ALA-Hex PDT, 307
- ALA-PDT, 145
- aminolevulinic acid derivatives, 341
- aminolevulinic acid, 341, 411, 441
- antibiotic resistance, 505
- anticellular, 223
- antimicrobial photodynamic therapy, 487
- antioxidant enzymes, 51
- antioxidant, 597
- antivascular, 223
- apoptosis, 159, 173, 189, 205
- apoptotic window, 173
- azone
- bacteria, 505
- Barrett's esophagus, 467
- bevacizumab, 251
- bioadhesion, 389
- biomedical optics, 321
- bioavailability, 597
- bladder cancer, 441
- bleomycin, 521
- body weight, 633
- bone morphogenetic protein, 537
- brain tumor, 261, 453
- cancer therapy, 521
- cancer, 341, 467, 571
- carcinogenicity, 597
- carcinoma in situ, 441
- caspases, 173
- cervical intraepithelial neoplasia, 321
- cholangiocarcinoma, 467
- chronic toxicity, 571
- cigarette smoke, 585
- colony-forming unit, 611
- complement system, 189
- continuous wave light, 217
- curcumin, 205, 679
- cytotoxicity, 205
- dental implants, 537
- dental pulp cells, 537
- dosimetry, 411
- doxorubicin (DOX), 625
- drug delivery, 521
- drug-light interval, 223
- electroporation (EP), 625
- Embllica officinalis*, 643
- endosomal release, 521
- endothelial cells, 585
- ENT, 467
- ERK, 667
- erythema, 307
- FAK, 679
- FD, 425
- fibronectin, 667
- flow cytometry, 205
- fluorescence cystoscopy, 441
- fluorescence detection, 453
- fluorescence diagnosis, 341, 425
- fluorescence excitation spectroscopy, 307
- fluorescence microscopy, 205
- fluorescence spectroscopy, 321
- fluorescence, 411
- fractionation, 261
- fungi, 505
- gallium, 145
- gelonin, 521
- gene therapy, 521
- glioblastomas, 467

glutathione, 585, 611, 633, 643
 HAL, 341
 heat shock protein 70, 189
 hematological parameters, 643
 hematoporphyrin derivative, 51, 441
 hemopoietic, 611
 hexaminolevulinate, 159, 441
 high-grade glioma, 453
 histopathological protocol, 321
 hypericin, 173, 223, 441
 hypocrellins, 223
 imaging, 341
 immunoadjuvants, 281
 immunodeficiency, 597
 immunotherapy, 281
 in vitro, 173
 in vivo diagnosis, 321
 induced antitumor immunity, 281
 inflammation, 321
 integrin, 667, 679
 interstitial, 373, 411
 intracellular ATP, 173
 invasion, 679
 irradiation, 643
 jejunum, 611
 Kaposi's sarcoma, 251
 lead, 145
 light, 217
 lip, 389
 lipid peroxidation, 611, 633, 643
 luminescence, 29
 MAL, 425
 MAOP
 mechanism, 293
 melanogenesis, 307
 membrane-associated, 655
 merocyanine 540, 217
 metabolism, 341
 mice, 625
 microbial infections, 505
 mitochondria, 173
 MMP-2 activation, 667
 MMP-2, 655, 679
 mosaic warts, 403
 motaxefin lutetium, 373
 mouse, 571
 MT1-MMP, 655
 myrmecia, 403
 NADPH-oxidase, 585
 nasopharyngeal carcinoma, 205
 oral infection, 487
 oxidative stress, 585
 oxygen, 307
para-chloronitrobenzene, 571
 patch
 PBGD, 145
 PDT, 261, 425, 467, 487
 perylenequinone, 223
 PET imaging, 239
 phenothiazines, 79
 photochemical internalization, 521
 photocytotoxicity, 205
 photodegradation (photobleaching), 7
 photodiagnosis, 389, 441
 photodynamic effect, 205
 photodynamic therapy, 7, 51, 79, 109, 127, 159, 189, 217, 223, 239, 251, 261, 281, 373, 389, 403, 425, 441, 453, 467, 505, 521,
 photodynamic treatment, 173
 photoreactions, 29
 photosensitization, 505
 photosensitizer, 7, 217
 phthalocyanines, 79, 505
 plantar warts, 403
 porphyrin, 79, 127, 145, 293, 425, 505
 prostacyclin, 585
 prostate, 373
 proteases, 341
 protein peroxides, 51
 protein therapy, 521
 protoporphyrin IX, 127
 pulsed laser, 217
 radiation, 625, 633
 radicals, 29
 radioprotection, 611, 643
 radiosensitization, 293
 rat, 571
 reactive oxygen species, 29, 51, 79
 real-time tumor response, 239
 reflectance spectroscopy, 307
 regenerative medicine, 537
Rosemarinus officinalis, 633
 selective photothermal therapy, 281
 Signalling, 667
 SiHa, 655
 singlet delta oxygen, 29

singlet oxygen, 7
singlet sigma oxygen, 29
site-specific, 521
spleen, 571
stem cells, 537
superoxide, 585
survivality, 633
Swiss albino mice, 633, 643
tissue engineering, 537

toxicity, 597
traditional Chinese medicine, 205
transitional cell carcinoma, 441
tumor growth delay (TGD), 625
tumor, 51, 571
VEGF, Avastin, 251
vitamin C, 585
vulva, 389
zinc, 597