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Photobacterium leiognathi in water-organic solvents / Sukovataya I.E., Tyulkova N.A. and Kaykova E.V. Characterization of a fish symbiont of Photobacterium phosphoreum with altered spectral properties / Whitaker S. ... [et al.] -- pt. 2. Instrumentation. Luminometers for industrial applications of rapid microbiology / Berthold F. ... [et al.]. Application of a luminescence microscope with novel optical system for detection of the gene expression pattern of individual cells / Hatta-Ohashi Y. ... [et al.] -- Novel tools for quantification of lumin / Hickey P.C. ... [et al.]. Luminescence microscope for reporter assay of single live cells / Suzuki H. ... [et al.] -- pt. 3. Assays. Elevation of choline concentration in cardiac troponin-I positive human plasma / Adamczyk M., Brashear R.J. and Mattingly P.G. High throughput detection of hydrogen peroxide: Validation of homogeneous chemiluminescent assays for choline in human plasma and whole blood / Adamczyk M. ... [et al.]. Development of bioluminescent pyrophosphate assay using pyruvate phosphate dikinase and its application to SNPs analysis. Arakawa H. ... [et al.]. Bioluminescent method for detection of proteinase activity in UHT milk / Brovko L.Y. ... [et al.]. Detection and control of Salmonella typhimurium growth using specific bacteriophage / Brovko L.Y. ... [et al.]. Improved sensitivity method for rapid hygiene monitoring using ATP bioluminescence / Driscoll M., Ramsay C. and Watkin J. Determination of antioxidant capacity and reactivity using hemincatalyzed luminol chemiluminescence / Eckert C.R. ... [et al.]. Applications of adenylate kinase detection using bioluminescence / Foote N., Green M. and Gregory S. Standardization of bioluminescent raw milk quality assay using Lumtek test-systems / Frundzhyan V.G. ... [et al.]. BART - Bioluminescent alternative to real-time PCR / Gandelman O. ... [et al.]. Advancing the development of dual-luciferase assays / Hawkins E.M. ... [et al.]. Simultaneous bioluminescent immunoassay using aequorin labeled Fab fragment and biotinylated firefly luciferase / Ito K. ... [et al.]. Designing enhanced thermostable luciferase for proteolytic assay / Jathoul A.P. ... [et al.]. Biosensors for the non-invasive evaluation of bacterial quorum sensing in GI disorders / Kumari A. ... [et al.]. Improved Ca²⁺-activated photoproteins for HTS applications / Mastroianni N., Flak T. and Corazza S. Development of a multiplexed bioluminescent cell-based assay with the luc gene from *Luciola italica* for high throughput screening of cholesterol-lowering drugs / Micheline E. ... [et al.]. Novel BET-based biosensors with a new bioluminescent donor, *Gaussia luciferase*, for estrogen receptor ligand / Micheline E. ... [et al.]. The use of lux genes for monitoring uptake of *Pseudomonas aeruginosa* by respiratory epithelial cells / Robinson G.M. ... [et al.]. Bioluminescence characteristics of an Obelin mutant in varying solvent conditions / Rowe L. ... [et al.]. A simple chemiluminescence flow injection analysis for the determination of sulphide in aqueous samples / Satienerakul S., Liawruangrath S. and Cardwell T.J. Using recombinant antigens for the detection of antibodies to *Trypanosoma cruzi* on a fully automated chemiluminescence analyzer / Shah D. ... [et al.]. / Quantitative bioluminescent RNA assay / Sun Y., Jacobson K.B. and Golovlev V. A novel multi-channel chemiluminescence assay to detect HIV antibodies as a more specific supplemental test / Sun X. and Yang X. Time-resolved measurement of firefly bioluminescence using photolysis of caged-ATP / Tanaka M., Igarashi R. and Wada N. Red-chemiluminescent probes for detecting superoxide anions / Teranishi K. Aequorin bioluminescence dissected by random mutagenesis / Tricoire L., Tsuzuki K. and Lambolez B. Influence of inorganic sulfur compounds on bioluminescent system NAD(P)H: FMN-oxidoreductase-luciferase / Vetrova E.V. and Prokhorova E.V. Development of the

Cypridina bioluminescent system for high throughput screening assays / Wu C. ... [et al.]. Quantitative Western blotting using a GZ-11 based chemiluminogenic signal reagent / Zomer G. ... [et al.] --pt. 4. Optical imaging and multicolor assays. Demonstration of tri-colored reporter assay using a filter luminometer "Sirius C" / Asai T., Berthold A., and Ohmiya Y. Real-time monitoring of vaccinia virus infection in cultured cells and in living mice using light-emitting proteins / Chen N. ... [et al.]. Use of bioluminescent reporter bacteria to study invasion and survival within mammalian cell lines / Cutter K.L. ... [et al.]. Network activities of the cerebral cortex monitored by bioluminescent aequorin imaging / Drobac E., Tricoire L. and Lambolez / Gaddipati S.R. ... et al.]. Bivalent fluorescent reporters for gene expression studies in Gram-positive bacteria / Gaddipati S.R. ... [et al.]. Four-color labeling of cell culture and tumors of live mice upon infection with: GFP-Ruc and RFP-CBG99 expressing Vaccinia virus strains / Raab V. ... [et al.]. Quantitative immunohistochemistry and in situ hybridization with luminescence detection: a new potential diagnostic tool / Roda A. ... [et al.]. Evaluation of an in vivo gene induction system in infected tumor-bearing mice / Stritzker J. ... [et al.]. Examinations of bacterium-mediated detection of tumors in mice models / Yu Y.A. and Szalay A.A. -- pt. 5. Biochemistry/Luminescence. Direct observation of a radical-ion intermediate in the chemiexcitation step of peroxyoxalate chemiluminescence / Bastas E.L. ... [et al.]. Kinetic observation of the chemiexcitation step in peroxyoxalate chemiluminescence / Ciscato L. F.M.L., Bartoloni F.H. and Baader W.J. Synthesis and studies of fenchyl-derived 1,2-dioxetanes / Ciscato L.F.M.L. ... [et al.]. Enzyme embedded organic monolith sensor for flow injection -chemiluminescence / Nozaki O., Munesue M. and Kawamoto H. Efficiency of electron-transfer induced chemiexcitation: A comparison of inter- and intramolecular processes / Oliveira M.A. and Baader W.J. Study of metal binding to monomeric red fluorescent protein, DsRed-monomer / Rahimi Y., Shrestha S. and Deo S.K. Time-dependent spectral change of chemiluminescence from firefly luciferin in deoxygenated dimethyl sulfoxide / Shibata R., Yoshida Y. and Wada N.A. quantum-chemical approach to the amino analogs of firefly luciferin / Wada N., Fujii H. and Sakai H. Firefly-luciferin and its analogs: a source of new luminescence dyes and ligands / Weiss D. ... [et al.]. Chemiluminescence enhancement effect of trace metal elements / Yoshiki Y. -- pt. 6. BLCL oceans, land & space. Bioluminescence in the spaceflight and life science training program at the Kennedy Space Center / Kratasyuk V.A. ... [et al.]. A comparison of bioluminescence and chlorophyll fields of the world ocean / Piontkovski S.A., Tokarev Y. N. and Levin L.A. Brazilian species of bioluminescence fungi / Stevabu C.V. ... [et al.]. Molecular phylogeny of cypridinid ostracodes and the evolution of bioluminescence / Torres E. and Gonzalez V.L.

Sommario/riassunto

In life science, bioluminescence and chemiluminescence have become a vital tool for laboratory analysis and biomedical imaging both in academic research and industrial product development. The latest advances in this exciting field, from fundamental research to cutting-edge applications, are explored in this most recent volume of the biannual symposium series, the Proceedings of the 14th International Symposium on Bioluminescence and Chemiluminescence. The volume highlights advances in fundamental knowledge about the origins and mechanisms of naturally occurring luminescence, including lucifera