Journal of Chromatography B

Copyright © 2012 Elsevier B.V. All rights reserved
Publication History: Formerly known as Journal of Chromatography B: Biomedical Sciences and Applications;
Sample Issue Online | About this Journal | Submit your Article | Shortcut link to this Title
New Article Feed | Alert me about new Volumes / Issues
Add to Favorites

Volumes 895–896, Pages 1-196 (1 May 2012)

Articles in Press

Volume 898 (2012)
Volume 897 (2012)
Volume 895 (2012)
Volumes 895–896 pp. 1-196 (1 May 2012)
Volume 893 (2012)
Volume 891 (2012)
Volume 889 (2012)
Volume 887 (2012)
Volume 885 (2012)
Volume 883 (2012)
Volume 881 (2012)
Volume 880 (2012)
Volume 879 (2011)
Volume 878 (2010)
Volume 876 (2009)
Volume 877 (2009)
Volume 875 (2008)
Volume 874 (2008)
Volume 873 (2008)
Volume 872 (2008)
Volume 871 (2008)
Volume 870 (2008)
Volume 869 (2008)
Volume 868 (2008)
Volume 867 (2008)
Volume 866 (2008)
Volume 865 (2008)
Volume 864 (2008)
Volume 863 (2008)
Volume 862 (2008)
Volume 861 (2008)
Volume 860 (2007)
Volume 859 (2007)
Volume 858 (2007)
Volume 857 (2007)
Volume 856 (2007)
Volume 855 (2007)
Volume 854 (2007)
Volume 853 (2007)
Volume 852 (2007)
Volume 851 (2007)
Volume 850 (2007)
Volume 849 (2007)
Volume 848 (2007)
Volume 847 (2007)

Original Research Article

We improve efficiency of QuEChERS and method automation using online GPC–GC/MS.

Original Research Article

Simultaneous determination of 45 pesticides in fruit and vegetable using an improved QuEChERS method and on-line gel permeation chromatography–gas chromatography/mass spectrometry.

Original Research Article

Liquid chromatography–electrospray quadrupole linear ion trap mass spectrometry method for the quantitation of palonosetron in human plasma and urine: Application to a pharmacokinetic study.

Original Research Article

Validation of an on-line solid-phase extraction method coupled to liquid chromatography–tandem mass spectrometry detection for the determination of Indacaterol in human serum.

Original Research Article

Show preview | Related articles | Related reference work articles

Show preview | Related articles | Related reference work articles

Show preview | Related articles | Related reference work articles

Show preview | Related articles | Related reference work articles

The method only needed a one-step protein precipitation procedure. The cycle time was 5.5 min allowing a sample throughput of 120–150 samples per day. The method was successfully used to analyze palonosetron in human plasma and urine. A two-compartment model was obtained after administrations. Palonosetron was eliminated at a slow rate in volunteers.
Simultaneous determination of flumatinib and its two major metabolites in plasma of chronic myelogenous leukemia patients by liquid chromatography–tandem mass spectrometry

Pages 25-30
Yong Yang, Ke Liu, Dafang Zhong, Xiaoyan Chen

Highlights

► Simultaneously determine flumatinib and its metabolites in CML patient plasma. ► Flumatinib and its metabolites have great differences in physicochemical properties. ► Each analyte was retained on the C8 column by using strong acidic mobile phase. ► A simple one-step protein precipitation increased throughput and efficiency. ► The method was applied to clinical studies of flumatinib mesylate in CML patients.

Multiresidue determination of veterinary drugs in aquaculture fish samples by ultra high performance liquid chromatography coupled to tandem mass spectrometry

Pages 39-47
Renata Pereira Lopes, Rocío Cazorla Reyes, Roberto Romero-González, José Luis Martínez Vidal, Antonia Garrido Frenich

Highlights

► Microdialysis is used for measuring protein-unbound aspirin and salicylic acid in rat. ► The HPLC system was applied to assay the blood and brain microdialyses. ► The herbal formulation has no significant effect on the pharmacokinetics of aspirin. ► These results are practical information for clinical practice of herb–drug interactions.

On-line two dimensional liquid chromatography/mass spectrometry for the analysis of triacylglycerides in peanut oil and mouse tissue

Pages 48-55
Qin Yang, Xianzhe Shi, Qun Gu, Sumin Zhao, Yuanhong Shan, Guowang Xu

Highlights

► An on-line comprehensive Ag⁺ × RP liquid chromatography system was constructed. ► The second dimension column was optimized to get better LC × LC separations. ► 28 TAGs from peanut oil and 44 TAGs from mouse liver were identified. ► Identifications were based on TAGs’ retention behaviors and their MS fragments.

High-sensitivity liquid chromatography–tandem mass spectrometry for the simultaneous determination of five drugs and their cytochrome P450-specific probe metabolites in human plasma

Pages 56-64
Kyung-Suk Oh, Su-Jin Park, Dhananjay D. Shinde, Jae-Gook Shin, Dong-Hyun Kim

Highlights

► We develop simultaneous quantitation tool of 5 CYP probe drugs and their metabolites. ► High recovery of all analytes was achieved by dual solvent extraction from plasma. ► LC/MS/MS method afforded high sensitivity to detect pg level of the drugs. ► This method is suitable for mini-dose cocktail clinical trials for drug interactions.
10  Low density solvent based dispersive liquid–liquid microextraction with gas chromatography–electron capture detection for the determination of cypermethrin in tissues and blood of cypermethrin treated rats

Mohana Krishna Reddy Mudiam, Rajeev Jain, Shailendra Kumar Maurya, Haider A. Khan, Sanghamitra Bandyopadhyay, R.C. Murthy

Show preview | Related articles | Related reference work articles

Highlights

► Low density solvent based dispersive-liquid–liquid microextraction for cypermethrin in rat tissues and blood samples. ► High enrichment factors for each matrix. ► DLLME procedure requires no centrifugation. ► Useful for various toxicological studies of cypermethrin in blood and tissue samples.

11  Residual metals cause variability in methionine oxidation measurements in protein pharmaceuticals using LC-UV/MS peptide mapping

Li Zang, Tyler Carlage, David Murphy, Ruth Frenkel, Peter Bryngelson, Mark Madsen, Yelena Lyubarskaya

Show preview | Supplementary content | Related articles | Related reference work articles

Highlights

► We studied the variability of LC-UV/MS method for analysis of methionine oxidation. ► The variability is mainly due to the residual heavy metals occurred to protein. ► Inclusion of EDTA in the digestion buffer suppresses the artificial oxidation. ► Residual heavy metals in LC columns also induce extra oxidation of peptides. ► Careful control of the heavy metals minimized the variability of LC-UV/MS method.

12  Application of high-speed counter-current chromatography coupled with a reverse micelle solvent system to separate three proteins from Momordica charantia

Yingnan Li, Lianhong Yin, Lingli Zheng, Lina Xu, Youwei Xu, Yanyan Zhao, Yan Qi, Jihong Yao, Xu Han, Kexin Liu, Jinyong Peng

Show preview | Related articles | Related reference work articles

Highlights

► Proteins from M. charantia were separated by HSCCC using reverse micelle system. ► Separation conditions were optimized and three proteins were isolated. ► The products showed with high purities and two of them were identified. ► One un-known protein with significant anticancer activity was found.

13  Development and validation of a rapid HPLC method for the determination of cefdinir in beagle dog plasma integrated with an automatic on-line solid-phase extraction following protein precipitation in the 96-well plate format

Ji Li, Li Wang, Zhao Chen, Rui Xie, You Li, Taijun Hang, Guorong Fan

Show preview | Related articles | Related reference work articles

Highlights

► A rapid on line SPE-HPLC method was developed to determine cefdinir in dog plasma. ► On line SPE following 96-Well protein precipitation could reduce more interference. ► Application of 96-well format improved the extraction efficiency. ► The method was applied to the pharmacokinetic study of cefdinir in beagle dogs. ► This method is economic.

14  Antibody affinity purification using metallic nickel particles

Jun Gao, Zhijun Li, Thomas Russell, Zhiyu Li

Show preview | Related articles | Related reference work articles

Highlights

► Solid nickel ferromagnetic particles for rapid, scalable, and efficient antibody affinity purification. ► Immobilizing Protein A on the surface of nickel particles for chromatographic and diagnostic applications. ► Minimizing Protein A leaching during antibody affinity purification. ► Isolating IgG antibodies directly from mouse serum in less than 5 min. ► Magnetic separation methods combining the pre-cleaning step and the affinity capture into one single step.
High-performance liquid chromatography quadrupole time-of-flight mass spectrometry method for the analysis of antidiabetic drugs in aqueous environmental samples

Pages 94-101
Julia Martín, Wolfgang Buchberger, Juan Luis Santos, Esteban Alonso, Irene Aparicio

Highlights
► Determination of metformin by reverse-phase chromatography. ► Chromatographic determination of metformin and four novel antidiabetic drugs. ► Applicability to wastewater, river water and tap water tested. ► Metformin, sitagliptin and vildagliptin detected in wastewater and river water.

UPLC–MS/MS determination of ractopamine residues in retinal tissue of treated food-producing pigs

Pages 102-107
Ana Vulić, Jelka Pleadin, Nina Perši, Dinka Milić, Wolfgang Radeck

Highlights
► The present study assessed persistence of ractopamine in retina as a pigmented tissue. ► Results showed mean residue concentrations from 67.11 μg/kg to 110.36 μg/kg. ► These data indicated high accumulation of ractopamine despite a low dose applied. ► Results supported the use of retina in the monitoring of this β2-adrenergic agonist.

Simultaneous determination of apatinib and its four major metabolites in human plasma using liquid chromatography–tandem mass spectrometry and its application to a pharmacokinetic study

Pages 108-115
Juefang Ding, Xiaoyan Chen, Xiaojian Dai, Dafang Zhong

Highlights
► Simultaneously determine apatinib and its four major metabolites in human plasma. ► Apatinib and its metabolites have great different physicochemical properties. ► A simple protein precipitation and short chromatographic run time were achieved. ► The method shows advantages of high selectivity and reproducibility. ► The method was successfully applied to clinical study of apatinib mesylate.

Rapid and sensitive measurement of PET radioligands in plasma by fast liquid chromatography/radiometric detection

Pages 116-122
Ryuji Nakao, Magnus Schou, Christer Halldin

Highlights
► A fast and sensitive radio-LC method have developed and validated for a wide array of PET radioligands. ► The method has an LOD of 1 Bq for 11C-labeled radioligands with good temporal resolution (3.5 min) and improved sample loadability (1.5–2.0 mL plasma). ► This characteristic enables higher numbers of samples (up to 24 samples per PET measurement) to be analyzed compared to conventional method. ► This method can successfully be applied to study the metabolism of PET radioligands in human and monkey plasma.

Quantification of biomarkers of environmental exposure to di(isonyonyl)cyclohexane-1,2-dicarboxylate (DINCH) in urine via HPLC–MS/MS

Pages 123-130
André Schütze, Claudia Pälmke, Jürgen Angerer, Tobias Weiss, Thomas Brüning, Holger M. Koch

Highlights
► DINCH is a major substitute for classical phthalate plasticizers. ► Secondary oxidized monoesters of DINCH are promising biomarker of DINCH exposure. ► We developed a fast and reliable on-line HPLC–MS/MS method. ► Our LOQs are sufficiently low to detect DINCH metabolites in a general population. ► DINCH metabolites are found in 86% of all samples analyzed.

Hollow fiber liquid-phase microextraction combined with high performance liquid chromatography for the determination of trace mitiglinide in biological fluids

Pages 131-136
Hind Hadi, Ahmad Makahleh, Bahruddin Saad
Highlights
► HF-LPME was for the first time reported for extraction of MIT in biological fluids. ► After the extraction, MIT was analyzed using HPLC–UV. ► The sample clean-up offered clean extracts. ► Resulting in significant reduction in analysis time. ► The proposed method is fast, sensitive, consumes minute amounts of extracting solvent.

Ryoya Goda, Nobuhiro Kobayashi

Highlights

Isolation of brefeldin A from Eupenicillium brefeldianum broth using macroporous resin adsorption chromatography
Ya-Jun Wang, Ye-Fei Wu, Feng Xue, Zhi-Xian Wu, Ya-Ping Xue, Yu-Guo Zheng, Yin-Chu Shen

Highlights
► One step isolation of brefeldin A from broth with macroporous resin is developed. ► The static equilibrium adsorption data of brefeldin A fits the Freundlich model. ► One-step column chromatography recovers 92.1% of brefeldin A in a purity of 90.4% from fermentation broth. ► A combination of adsorption chromatography and crystallization produces brefeldin A with purity of >99%.

Simultaneous determination of six alkaloids and one monoterpene in rat plasma by liquid chromatography–tandem mass spectrometry and pharmacokinetic study after oral administration of a Chinese medicine Wuji Pill
Jin Yuan, Ying Wang, Rui An, Shuang Wang, Shui-Jun Li, Jing-Ying Jia, S.W. Annie Bligh, Xin-Hong Wang, Yue-ming Ma

Highlights
► LC–MS/MS method for simultaneous quantitation of six alkaloids and one monoterpenes in rat plasma by liquid chromatography–tandem mass spectrometry and pharmacokinetic study after oral administration of a Chinese medicine Wuji Pill. ► Seven active constituents of “Wuji Pill” simultaneously quantitated in rat plasma. ► LLOQs of these seven constituents are below 4.18 ng/mL. ► Efficient one-step liquid–liquid extraction of these constituents in rat plasma. ► Pharmacokinetic of seven compounds in rat plasma after oral dosing of “Wuji Pill”.

Analysis of Panax notoginseng metabolites in rat bile by liquid chromatography–quadrupole time-of-flight mass spectrometry with microdialysis sampling
Xiao-Dong Wen, Jie Yang, Rong-Hua Ma, Wen Gao, Lian-Wen Qi, Ping Li, Brent A. Bauer, Guang-Jian Du, Zhiyu Zhang, Jacqueline Somogyi, Chong-Zhi Wang, Chun-Su Yuan

Highlights
► Analysis of hepatic bile excretion is important to understanding drug metabolism. ► Technical difficulties limited notoginseng compound analysis in rat bile. ► A bile duct microdialysis with Q-TOF-MS was developed to obtain its metabolic profile. ► Four parent compounds and 3 metabolites were identified via real-time monitoring. ► One identified active metabolite, compound K, has significant biological activity.

Liquid chromatography–tandem mass spectrometric assay for the VEGFR inhibitor cediranib and its primary human metabolite cediranib-N-glucuronide in plasma

Highlights

► The first bioanalytical assay for cediranib-N-glucuronide has been reported. ► The assay is more simple and faster than the existing assay for cediranib. ► Analytes are stable under all conditions relevant for the assay. ► The assay was successfully validated for both compounds. ► Purification of enzymatically synthesized metabolic reference standard was not required.

26 Liquid chromatography–tandem mass spectrometric assay for the JAK2 inhibitor CYT387 in plasma
Pages 174-177
Rolf W. Sparidans, Selvi Durmus, Ning Xu, Alfred H. Schinkel, Jan H.M. Schellens, Jos H. Beijnen

Highlights

► The first bioanalytical assay for CYT387 has been reported. ► The LC–MS/MS assay is simple, fast and sensitive. ► The assay has successfully been validated in the 0.25–1000 ng/ml range. ► The drug is stable under all conditions relevant for the assay.

27 Rapid quantitative analysis of clarithromycin in rat plasma by UPLC–MS/MS after intravenous injection of the clarithromycin-loaded ultrafine PLGA nanoparticles
Pages 178-181
Yu-Jing Wang, Yi-Ting Wu, Jia-Yi Lin, Chih-Hung Chu, Hsin-Ying Huang, Yu-Chao Wang, Jen-Kun Chen, Chung-Shi Yang

Highlights

► A rapid UPLC–MS/MS-based method for analyzing plasma clarithromycin was developed. ► Clarithromycin loaded in ultrafine PLGA nanoparticles was synthesized. ► Rat plasma pharmacokinetic profile for nanoformulated clarithromycin was obtained.

28 Reverse injection capillary electrophoresis UV detection for serotonin quantification in human whole blood
Pages 182-185
Angelo Zinellu, Salvatore Sotgia, Luca Deiana, Ciriaco Carru

Highlights

► We describe the first CE-UV detection method to measure serotonin in human whole blood. ► We investigate all parameters such as concentration and pH of run buffer and injection mode. ► The suitability of the method was tested by measuring 5-HT levels in 20 healthy volunteers.

29 Ultra sensitive measurement of endogenous epinephrine and norepinephrine in human plasma by semi-automated SPE-LC–MS/MS
Pages 186-190
Guodong Zhang, Yizhong Zhang, Chengjie Ji, Thomas McDonald, Justin Walton, Elizabeth A. Groeber, Rick C. Steenwyk, Zhaosheng Lin

Highlights


30 A sensitive and selective HPLC-FLD method with fluorescent labeling for simultaneous detection of bile acid and free fatty acid in human serum
Pages 191-195
Guo-Liang Li, Guang Chen, Yue-Qiu Liu, Nian-Hua Jing, Jin-Mao You

Highlights

► A new HPLC-FLD method was developed for bile acid and free fatty acid detection. ► The method was validated by linearity, LOD, repeatability, accuracy and precision. ► We compared the proposed method with the reported methods.