



ISSN 1004-8685

CN 41-1192/R

# 中国卫生检验杂志

ZHONGGUO WEISHENG JIANYAN ZAZHI

2014年5月 第24卷 第9期

May.2014 Vol.24 No.9

CHINESE  
JOURNAL OF HEALTH  
LABORATORY TECHNOLOGY

国家卫生和计划生育委员会主管  
中华预防医学学会主办

中文核心期刊

中国科技论文统计源期刊(中国科技核心期刊)

RCCSE 中国核心学术期刊(A-)

中国生物医学源期刊

美国化学文摘(CA)源期刊

中国学术期刊综合评价数据库源期刊

CJ  
HLT

9

2014

ISSN 1004-8685



9 771004 868149

中华预防医学学会系列杂志  
SERIAL JOURNAL OF CHINESE PREVENTIVE MEDICINE ASSOCIATION

# 中国卫生检验杂志

ZHONGGUO WEISHENG JIANYAN ZAZHI

半月刊 1991 年创刊 第 24 卷 第 9 期 2014 年 5 月 10 日出版

中文核心期刊 中国科技论文统计源期刊(中国科技核心期刊) RCCSE 中国核心学术期刊(A-)

中国生物医学源期刊 美国化学文摘(CA)源期刊 中国学术期刊综合评价数据库源期刊

**主管**

中华人民共和国国家卫生和计划生育委员会  
100044,北京市西城区西直门外南路1号

**主办**

中华预防医学会  
100009,北京市西城区鼓楼西大街154号

**社长总编**

张绍武

**副社长**

张甜 姜友珍

**副总编**

郁庆福 李桂英 张克荣

**编辑部主任**

杨峰

**责任编辑**

黄霁秋 王培娟

**编辑**

中国卫生检验杂志编委会

**出版**

中国卫生检验杂志社  
450003 郑州市经一路12号

**编辑部电话**

0371-65978342  
0371-65968289(传真)

**广告部电话**

0371-65998851  
15538110112

**出版日期**

2014年5月10日

**发行**

国内发行:北京市邮政局  
邮发代号:80-152  
国外发行:中国国际图书贸易总公司  
(北京399信箱)  
国外发行代号:M5752

**中国标准连续出版物号**

ISSN1004-8685  
CN41-1192/R

**广告经营许可证号**

4100004000124

**2014年版权归中国卫生检验杂志社所有**

**定价**

每期21.5元

## 目 次

### 论 著

- 沙门菌属 *stn* 基因 LAMP 快速检测方法的建立及应用 .....  
..... 李爱华,王胜启,秦东春 (1217)
- 环介导等温扩增技术快速检测志贺菌 .....  
..... 吴家林,沙丹,孙燕萍,等 (1221)
- 树脂富集 - 石墨炉原子吸收法测定食品中六价铬 .....  
..... 刘冬英,李建国,赵春香,等 (1225)
- 5-Aza 对肝纤维化进程及 *miR-29b* 基因异常甲基化的影响 .....  
..... 林德照,郑建建,林镯,等 (1229)
- 应用胎盘组织芯片检测子痫前期中 E-cadherin 的表达 .....  
..... 张展,李伟,张琳琳,等 (1232)

### 化学测定方法

- ICP-MS 法快速测定血液透析水中 15 种化学污染物 .....  
..... 袁利杰,朱晓鹏,郑子栋 (1236)
- 顶空 - 气相色谱法测定废水中的正丁醇 .....  
..... 卢星星,梅勇,宋世震,等 (1238)
- 同位素稀释 - 气相色谱质谱联用法测定食用油中 16 种多环芳烃 .....  
..... 张念华,应英,冯靓,等 (1240)

**本刊编委** (排名不分先后)

李 蓉 濮 萍 何浙生 丁家华  
陈守建 叶能权 贾珍珍 何晓青  
何建国 许春向 刘秀梅 王志玉  
冀元棠 毕永毅 高永清 晁福寰  
邹学贤 刘殿武 仓公敖 吕昌银  
方赤光 孙成均 栗文元 姜庆五  
凌文华 韩玉霞 康维钧 曹 佳  
黄国伟 王大宁 窦志勇 孙长颤  
廖百森 赵 卓 杨 元 李晓虹  
张 曦 谭晓东 裴晓方 任一平  
徐东群 栾 燕 潘 慧 王栩东  
祁建城 崔 巍 裴少军 吴清平  
曾现伟 康 辉 阚 飖 王京宇  
曹润武 王 哲 宋宏彬

**Editorial Board Member**

Li Rong, Pu Ping, He Zhesheng, Ding Jiahua,  
Chen Shoujian, Ye Nengquan, Jia Zhenzhen, He  
Xiaoqing, Hu Jianguo, Xu Chunxiang, Liu Xi-  
umei, Wang Zhiyu, Ji Yuantang, Bi Yongyi, Gao  
Yongqing, Chao Fuhuan, Zou Xuexian, Liu Dian-  
wu, Cang Gongao, Lv Changyin, Fang Chiguang,  
Sun Chengjun, Li Wenyuan, Jiang Qingwu, Ling  
Wenhua, Han Yuxia, Kang Weijun, Cao Jia,  
Huang Guowei, Wang Daning, Dou Zhiyong, Sun  
Changhao, Liao Baisen, Zhao Zhuo, Yang Yuan, Li  
Xiaohong, Zhang Xi, Tan Xiaodong, Pei Xiaofang,  
Ren Yiping, Xu Dongqun, Luan Yan, Pan Hui,  
Wang Xudong, Qi Jiancheng, Cui Wei, Pei Shao-  
jun, Wu Qingping, Zeng Xianwei, Kang Hui, Kan  
Biao, Wang Jingyu, Cao Runwu, Wang Zhe,  
Song Hongbin

**网 址**

www.cdc999.com

**投稿电子信箱**

wsjyzz@126.com

**印 刷**

鑫宏源印刷包装有限责任公司

**来稿咨询电话**

010 - 84030401

固相萃取/高效液相色谱法测定生活饮用水中氨基甲酸酯类农药.....

..... 张学健,程永红,李世荣 (1243)

**实验研究**

一种医用消毒耦合剂细胞毒性实验研究 .....

..... 程东,韩晓英,张天亮 (1245)

铁皮石斛对小鼠致突变作用的检测研究 .....

..... 许燕,李姿,秦光和 (1248)

**食品与药品检验**

3 种方法检测食品中菌落总数的比较 ..... 孙霞,蒋廉华,卢新 (1250)

气相色谱 - 质谱法测定食用油中 17 种邻苯二甲酸酯类物质 .....

..... 周华,张蕴,边天斌,等 (1252)

**微生物检测方法**

稀菌液细菌数服从泊松分布及其在菌落计数方面的应用 .....

..... 邓通洋,程琮,冯维良,等 (1255)

WS 易碎菌落法与显色培养基 CAS 检测沙门菌结果对比 .....

..... 张缪伟,周兆华,沈美枫,等 (1257)

**临床检验**

半自动血液推片机在临床检验中的应用 .....

..... 张士化,马少华,王东钢,等 (1259)

口服葡萄糖对正常孕妇和妊娠期糖尿病孕妇血清总胆汁酸水平的影响 .....

..... 陈雪茄,邓通洋,温海燕,等 (1262)

CA199、CysC 和 Hcy 联检对胰腺癌的诊断价值 .....

..... 陈乐宝,黄东标 (1265)

MMP - 2、MMP - 9 及其组织抑制因子在子宫内膜异位症中的表达 .....

..... 袁国平,陈俊杰,谢芳 (1267)

- 类风湿关节炎与 DcR3 的相关性研究 ..... 孙安民,王伟 (1269)
- 胃蛋白酶原检测在胃部疾病中的临床意义 ..... 郭红梅,童青青,赵亚娟,等 (1272)
- 纳米微球增强免疫比浊法测定  $\beta_2$  - 微球蛋白方法学评价及临床意义 ..... 陈燕敏,马建波 (1274)
- 内江市 319 例美沙酮维持治疗者血清检测分析 ..... 曾长英,张川 (1277)
- IL - 37 在类风湿性关节炎患者体内表达的研究 ..... 陈雪芳,王佳良 (1280)
- XS - 1000i 血细胞分析仪白细胞警示信息镜检形态学分析 ..... 姚中华,沈红惠,陆柏江 (1283)
- 检测同型半胱氨酸、血脂对冠状动脉粥样硬化的临床意义 ..... 黄旭映,张宝生 (1285)
- 血清胱抑素 C、 $\beta_2$  - 微球蛋白及传统标志物检测在肾功能不同损害期的临床研究 ..... 李波,李峰 (1287)
- O 型孕妇 IgG 抗 A(B)效价对新生儿溶血病的预测价值 ..... 沈美萍,陈士华,林云华 (1290)
- 空腹血糖受损人群血脂水平分析 ..... 陈彤岩,张国军,康熙雄 (1292)
- 内毒素(G⁻ 菌脂多糖)的连续监测与临床用药分析 ..... 冯强生,哈小琴,宋月娟,等 (1295)
- 干扰素体外释放酶联免疫法在结核病诊断中的临床应用 ..... 张艳,夏强,岳永宁,等 (1297)

## 分子诊断与基因检测

- qPCR - HRM 法检测 NSCLC 患者外周血中 EGFR 突变 ..... 王海,崔大伟,杨悦 (1300)

## 监测分析

- 中山市公共浴室环境卫生质量现状分析与综合评价 ..... 邓春拓,黄莉莉,邓东峰,等 (1303)
- 无锡市病毒性腹泻流行的监测分析 ..... 管红霞,肖勇,沙丹,等 (1306)
- 义乌地区健康体检妇女宫颈人乳头瘤病毒感染情况分析 ..... 李明雷,俞月萍,方海俊,等 (1309)
- 2012 年沈阳地区手足口病病原检测结果分析 ..... 高丹,张国斌,刘娜 (1312)
- 从江县 2009 年 - 2012 年农村饮用水水质监测结果分析 ..... 吴益群,刘运维,吴春艳 (1315)
- 2011 年 - 2013 年北京怀柔区病毒性腹泻病原学监测结果分析 ..... 杨丽梅,李超,赵小娟 (1318)
- 常德市 2010 年 - 2013 年水产品中霍乱弧菌的监测分析 ..... 谢朝梅,谢燕湘,肖慧芳,等 (1321)
- 液态乳中硫氰酸钠检测结果分析评估 ..... 陈宏靖 (1323)
- 杭州市江干区农贸市场 209 份蔬菜中 12 种有机磷农药残留监测结果分析 ..... 张瑞云,周燕,蒋雪凤,等 (1325)

义乌市职业暴露人群血清学和环境高致病性禽流感监测分析 ..... 陈劲华,翁正军,朱列波,等 (1328)

## 调查报告

应用铅同位素比值研究广州市儿童铅负荷的来源 ..... 彭荣飞,周宏伟,黄聪,等 (1331)

岷县地震灾区饮用水水质状况调查 ..... 董锐,聂融,申艳琴,等 (1334)

厦门市售液态奶中黄曲霉毒素 M<sub>1</sub> 的污染状况分析 ..... 周娜,贾玉珠,陈丽惠 (1336)

台州地区儿童呼吸道感染非典型病原体检出情况分析 ..... 陈红霞,马玲敏,黄艳,等 (1339)

2011 年东营市儿童及孕期哺乳期妇女碘营养状况调查 ..... 苏亚娟,曹卫华 (1341)

2011 年乐清市婚前医学检查状况分析 ..... 韩利娟,钱小泉,王奔 (1344)

5609 名海员体检尿酸水平分析 ..... 王福斌,王广芬,周麟 (1346)

## 细菌耐药性研究

输尿管结石术后医院感染的病原菌及其耐药性分析 ..... 晏旭东,谭琳,张可帅,等 (1349)

## 教学与实验室管理

微波消解 - 氢化物发生原子荧光光谱法同时测定茶叶中砷和汞的质量控制 ..... 钟小伶,俞涛,张瑞云 (1352)

ISO15189 质量管理体系不符合项分析及改进 ..... 张志强,王新锋 (1354)

## 经验交流

酶底物法检测大肠菌群相关问题的探讨 ..... 马健,权玉玲,杨丽丽 (1356)

高效液相色谱法测定二丁胶囊中绿原酸的含量 ..... 陈创钦,林志伟,张骊,等 (1358)

现行职业卫生检测方法存在的问题探讨 ..... 罗江琳 (1361)

## 综述

食用植物油中多环芳烃检测技术研究进展 ..... 王朝霞,姜梅,董峰光,等 (1362)

知识产权影响全球食品安全 ..... 熊建军 (1366)

## 信息

更正说明 ..... (1228)

# CHINESE JOURNAL OF HEALTH LABORATORY TECHNOLOGY

Semimonthly Established in 1991 , Volume 24 Number 9 May 10, 2014

Chinese Core Journal , Chinese Journal of Statistic Sources of Scientific Paper(CSTPCD) , RCCSE (A-) ,  
Chinese Journal of Biomedicine Sources , American Journal of Chemical Abstracts , Chinese Journal of Academic Evaluation Library

**Managed by**

National Health and Family Planning Commission  
of the People's Republic of China  
No. 1, Xizhimen Wai'an Road, Xicheng District, Beijing, 100044

**Sponsored by**

Chinese Preventive Medicine Association  
No. 154, Gulou West Street, Xicheng District, Beijing, 100009

**Editor in Chief**

Zhang Shaowu

**Deputy Chairman**

Zhang Tian, Jiang Youzhen

**Associate Editor in Chief**

Yu Qingfu, Li Guiying, Zhang Kerong

**Director of Editorial Department**

Yang Feng

**Editor in Charge**

Huang Jiqiu, Wang Peijuan

**Edited by**

Editorial Board of Chinese Journal of Health Laboratory Technology

**Published by**

Editorial Department of Chinese Journal of Health Laboratory Technology  
No. 12, Jingyi Road, Zhengzhou, 450003

**Editorial office telephone**

0371 - 65978342  
0371 - 65968289(Fax)

**Advertising department telephone**

0371 - 65998851  
15538110112

**Publication Date**

May 10, 2014

**Domestic Distributor**

Beijing Post Bureau  
Code No.: 80 - 152

**Overseas Distributor**

China International Book Trading Corporation  
(P. O. Box 399, Beijing, China)  
Code No.: M5752

**Website**

www.cdc999.com

**E-mail**

wsjyzz@126.com

**Standard Series Number**

ISSN1004 - 8685  
CN41 - 1192/R

**Advertising Management License**

4100004000124

Copyright 2014 by Editorial Department of  
Chinese Journal of Health Laboratory Technology

**Price**

RMB ¥ 21.5

## CONTENTS IN BRIEF

### Original Articles

- Establishment and application of LAMP method based on *stn* gene for rapid detection of *Salmonella* ..... LI Ai - hua, WANG Sheng - qi, QIN Dong - chun (1217)
- Rapid detection of *Shigella* by loop - mediated isothermal amplification technology ..... WU Jia - lin, SHA Dan, SUN Yan - ping, et al (1221)
- Resin enrichment - graphite furnace atomic absorption spectrometry for determination of hexavalent chromium in foods ..... LIU Dong - ying, LI Jian - guo, ZHAO Chun - xiang, et al (1225)
- Effects of 5 - aza - 2' - deoxycytidine on the development of liver fibrosis and the abnormal methylation of *miR - 29b* gene ..... LIN De - zhao, ZHENG Jian - jian, LIN Zhuo, et al (1229)
- Detection of E - cadherin expression in preeclampsia by placenta tissue microarray ..... ZHANG Zhan, LI Wei, ZHANG Lin - lin, et al (1232)
- ### Chemical Detection Method
- Rapid determination of 15 chemical pollutants in hemodialysis water by ICP - MS ..... YUAN Li - jie, ZHU Xiao - peng, ZHENG Zi - dong (1236)
- Determination of n - butanol in waste water by headspace gas chromatography ..... LU Xing - xing, MEI Yong, SONG Shi - zhen, et al (1238)
- Determination of 16 polycyclic aromatic hydrocarbons in edible oil by isotope dilution gas chromatography - mass spectrometry ..... ZHANG Nian - hua, YING Ying, FENG Liang, et al (1240)

- Determination of carbamate pesticides in drinking water using solid phase extraction – HPLC .....  
..... ZHANG Xue - jian, CHENG Yong - hong, LI Shi - rong (1243)

## Experimental Study

- Study on cytotoxicity of a medical disinfectant couplant .....  
..... CHENG Dong, HAN Xiao - ying, ZHANG Tian - liang (1245)
- Study on the mutagenic action of dendrobiunm candidum on mice ..... XU Yan, LI Zi, QIN Guang - he (1248)

## Food and Drug Inspection

- Comparison of three test methods for aerobic plate count in foods ..... SUN Xia, JIANG Lian - hua, LU Xin (1250)
- Determination of 17 phthalate acid esters in edible oil by gas chromatography – mass spectrometry .....  
..... ZHOU Hua, ZHANG Yun, BIAN Tian - bin, et al (1252)

## Microbe Detection Method

- Bacterial count in the diluted bacterial suspension obeying poisson distribution and its application in colony counting ...  
..... DENG Tong - yang, CHENG Cong, FENG Wei - liang, et al (1255)
- Comparison of WS friable colony method and CAS chromogenic medium in detection of *Salmonella* .....  
..... ZHANG Miao - wei, ZHOU Zhao - hua, SHEN Mei - feng, et al (1257)

## Clinical Laboratory Test

- Application of the semiautomatic blood slide maker in clinical laboratory .....  
..... ZHANG Shi - hua, MA Shao - hua, WANG Dong - gang, et al (1259)
- Effect of oral administration of glucose on serum TBA levels in normal and GDM pregnant women .....  
..... CHEN Xue - jia, DENG Tong - yang, WEN Hai - yan, et al (1262)
- Diagnostic value of joint determination of serum CA199, CysC and Hcy levels in patients with pancreatic cancer .....  
..... CHEN Le - bao, HUANG Dong - biao (1265)
- Expression of MMP - 2, MMP - 9 and tissue inhibitor of metalloproteinase in endometriosis .....  
..... YUAN Guo - ping, CHEN Jun - jie, XIE Fang (1267)
- Research on the correlation between DcR3 and rheumatoid arthritis ..... SUN An - min, WANG Wei (1269)
- Clinical significance of pepsinogen determination in various gastric diseases .....  
..... GUO Hong - mei, TONG Qing - qing, ZHAO Ya - juan, et al (1272)
- Evaluation of nanoparticle – enhanced turbidimetric immunoassay in determination of  $\beta_2$  – microglobin and its clinical significance ..... CHEN Yan - min, MA Jian - bo (1274)

Analysis of 319 drug addicts receiving methadone maintenance therapy (MMT) in Neijiang .....	ZENG Chang - ying, ZHANG Chuan (1277)
Study on IL - 37 expression in rheumatoid arthritis patients ..... CHEN Xue - fang, WANG Jia - liang (1280)	
Analysis of the microscopic examination results of leukocyte alarm information from XS - 1000i hematology analyzer .....	YAO Zhong - hua, SHEN Hong - hui, LU Bai - jiang (1283)
Clinical significance of homocysteine and blood lipid in coronary atherosclerosis .....	HUANG Xu - ying, ZHANG Bao - sheng (1285)
Research on clinical value of serum cystatin C, beta 2 microglobulin and traditional markers in different stages of renal function impairment .....	LI Bo, LI Feng (1287)
The prediction value of serum IgG anti - A (B) titer of pregnant women with blood O in hemolytic disease of the newborn .....	SHEN Mei - ping, CHEN Shi - hua, LIN Yun - hua (1290)
Analysis of serum lipids level in individuals with impaired fasting glucose .....	CHEN Tong - yan, ZHANG Guo - jun, KANG Xi - xiong (1292)
Continuous monitoring and clinical application of endotoxin (G <sup>-</sup> lipopolysaccharides, LPS) in sepsis patients .....	FENG Qiang - sheng, HA Xiao - qin, SONG Yue - juan, et al (1295)
Clinical application of T - cell based IFN - γ release assay in rapid diagnosis of tuberculosis .....	ZHANG Yan, XIA Qiang, YUE Yong - ning, et al (1297)

### **Molecular Diagnosis and Gene Detection**

EGFR mutation detection in peripheral blood of NSCLC patients by qPCR - HRM .....	WANG Hai, CUI Da - wei, YANG Yue (1300)
-----------------------------------------------------------------------------------	-----------------------------------------

### **Monitoring and Analysis**

Analysis and comprehensive evaluation of environmental sanitation quality of public bathrooms in Zhongshan city .....	DENG Chun - tuo, HUANG Li - li, DENG Dong - zheng, et al (1303)
Analysis of surveillance results of viral diarrhea in Wuxi ... GUAN Hong - xia, XIAO Yong, SHA Dan, et al (1306)	
Analysis of human papilloma virus infection situation in women receiving physical examination in Yiwu .....	LI Ming - lei, YU Yue - ping, FANG Hai - jun, et al (1309)
Analysis of HMFD etiology detection results in Shenyang in 2012 ..... GAO Dan, ZHANG Guo - bin, LIU Na (1312)	
Analysis of monitoring results of rural drinking water in Congjiang county from 2009 to 2012 .....	WU Yi - qun, LIU Yun - wei, WU Chun - yan (1315)

- Analysis of etiology monitoring results of viral diarrhea in Huairou district of Beijing from January 2011 to June 2013 ...  
..... YANG Li - mei, LI Chao, ZHAO Xiao - juan (1318)
- Detection and analysis of *Vibrio cholera* in aquatic products of Changde city during 2010 - 2013 .....  
..... XIE Chao - mei, XIE Yan - xiang, XIAO Hui - fang, *et al* (1321)
- Analysis of sodium thiocyanate detection results in liquid milk ..... CHEN Hong - jing (1323)
- Analysis of 12 kinds of organophosphorus pesticides residues in 209 vegetable samples from farmers' markets in Jianggan district of Hangzhou ..... ZHANG Rui - yun, ZHOU Yan, JIANG Xue - feng, *et al* (1325)
- Analysis of highly pathogenic avian influenza virus distribution in serum of occupational exposed population and environment in Yiwu ..... CHEN Jin - hua, WENG Zheng - jun, ZHU Lie - bo, *et al* (1328)

## **Investigation Report**

- Study on children lead load source in Guangzhou by lead isotope ratio .....  
..... PENG Rong - fei, ZHOU Hong - wei, HUANG Cong, *et al* (1331)
- Investigation on drinking water quality of the earthquake - stricken area in Minxian .....  
..... DONG Kun, NIE Rong, SHEN Yan - qin, *et al* (1334)
- Analysis of AFM<sub>1</sub> contamination status in commercial liquid milk in Xiamen .....  
..... ZHOU Na, JIA Yu - zhu, CHEN Li - hui (1336)
- Analysis of atypical pathogens detection results in children with respiratory tract infection in Taizhou .....  
..... CHEN Hong - xia, MA Ling - min, HUANG Yan, *et al* (1339)
- Survey on iodine nutriture of children and pregnant - lactating women in Dongying city in 2011 .....  
..... SU Ya - juan, CAO Wei - hua (1341)
- Analysis of premarital medical examination status in Yueqing in 2011 .....  
..... HAN Li - juan, QIAN Xiao - quan, WANG Ben (1344)
- Analysis of uric acid level of 5609 seafarers ..... WANG Fu - bin, WANG Guang - fen, ZHOU Lin (1346)

## **Bacterial Resistance Research**

- Analysis of distribution and drug resistance of pathogens in ureteral calculi patients with postoperative infection in urology surgery department ..... YAN Xu - dong, TAN Lin, ZHANG Ke - shuai, *et al* (1349)

# 3M 霉酵 新突破

快速出结果  
只需48小时

- 方便使用和判读
- 性能卓越
- 适用样品广泛
- 结果可靠
- 节省劳动力

3M 中国有限公司

总办事处

上海市长宁区仙霞路99号尚嘉中心16楼 邮编: 200336 电话: 86-21-62753535 传真: 86-21-62752343

**3M**