



ZHONGCAOYAO

Chinese Traditional and Herbal Drugs

第 55 卷 第 7 期 (总第 762 期)

2024 年 4 月 12 日出版

半月刊

1970 年 1 月创刊

主 管

天津药物研究院

主 办

天津药物研究院 (www.tjpr.com)

中 国 药 学 会 (www.cpa.org.cn)

编辑出版

《中草药》杂志编辑部

地址: 天津市滨海新区滨海科技园

惠仁道 306 号

邮编: 300462

电话: 022-27474913 23006821

网址: www.tiprpress.com

www.中草药杂志社.中国

E-mail: zcy@tiprpress.com

国际标准连续出版物号

ISSN 0253-2670

国内统一连续出版物号

CN 12-1108/R

主 编 刘昌孝

执行主编 陈常青

目 次

· 化学成分 ·

- 2131 新疆紫草化学成分研究
王 乐, 王淑慧, 王琪琪, 王喻淇, 屠鹏飞
- 2142 海洋真菌 *Penicillium* sp. HD-1-1 次级代谢产物研究
王 聪, 王玉妃, 徐 辉, 许 睿, 兰建洲, 孔凡栋, 周丽曼
- 2152 大发表的化学成分研究 赵建军, 李战国, 丁 茜, 李小辉
- 2160 基于 UPLC-Q-TOF-MS/MS 技术结合多元统计分析比较不同品种牛膝药材化学成分的差异
晏露婷, 宋永贵, 艾志福, 李惠珍, 杨 明, 朱根华, 张 琦
邵文祥, 袁 恩, 苏 丹

· 药剂与工艺 ·

- 2175 基于 Box-Behnken 设计-响应面法和电子眼的栀子姜炙工艺研究
范星晨, 祁玉芳, 张科卫, 汪思晨, 戴桂钰, 陆兔林, 毛春芹
- 2183 基于 UPLC-Q-TOF-MS/MS 的疏肝和胃汤化学成分、HPLC 指纹图谱、化学模式识别及含量测定研究
袁传裕, 胡俊杰, 李 娟, 刘焱文, 刘松林, 陈 新
- 2197 酸碱位移结合喷雾干燥法制备染料木素三元包合物体系
王明帅, 宁 夏, 刘华石, 王井侠, 段亚辉, 耿晨阳, 王伟明
- 2206 基于智能集成模型前胡切片微波真空干燥过程水分比预测
胡轶娟, 梁卫青, 徐 攀, 童晔玲, 楼柯浪, 浦锦宝
- 2216 基于质量源于设计 (QbD) 制备大黄素固体脂质纳米粒
李 楠, 邓艳平
- 2227 基于指纹图谱和含量测定评价地黄不同入药形式制千金黄连丸质量
张春亚, 张 威, 李莹莹, 雷敬卫, 杨颜溶, 田瀚举, 张 娟
赵新梅, 段浩瀚, 龚海燕, 杨春静, 王笑笑

· 药理与临床 ·

- 2237 基于代谢组学研究生地黄对寒证大鼠的药性
张文森, 崔 娜, 苏发智, 张转转, 贾晨宸, 孙延平, 杨炳友
匡海学, 王秋红
- 2248 土木香内酯抗病毒作用的体内外研究
李艺颖, 初英杰, 孔令东, 谢 芳, 何昱廷, 刘 霞, 李俊良
罗 政, 周义翔, 王 遥
- 2259 白屈菜-元胡药对逆转乳腺癌阿霉素耐药药效物质研究
邹 翔, 张雪瑞, 于佳慧, 孙雨恒, 张宇航, 舒 淇, 曲中原
- 2271 柴胡不同极性部位对肝癌 SMMC-7721 细胞的影响及机制研究
王威宇, 陈一笑, 白帅东, 冯建有, 秦雪梅, 高晓霞
- 2283 基于 PI3K/Akt/Nrf2 信号通路研究逍遥散拆方药队挥发油部位对脂多糖致抑郁样模型小鼠的作用及机制
谢志强, 胡靖文, 曾九僧, 陈 力, 谢红潇, 方 洋, 曾 南
- 2292 稳心颗粒对心律失常大鼠凋亡、炎症及氧化应激的影响
钱舒乐, 于 露, 李晓凤, 王润英, 宋博涵, 赵玉珂
郭海珍, 杜武勋



ZHONGCAOYAO

Chinese Traditional and Herbal Drugs

第 55 卷 第 7 期 (总第 762 期)

2024 年 4 月 12 日出版

广告合作

中草药杂志社媒体运营部

电话: 022-23006868 23006895

印刷

天津市恒远印刷有限公司

国内发行

天津市邮政局

订 阅

全国各地邮政局

国外发行

中国国际图书贸易集团有限公司

(100044 北京 399 信箱)

国内邮发代号

6-77

国外邮发代号

M221

定价

每期 60.00 元 全年 1440.00 元

广告发布登记号

BH 2020-01

英文责任编辑

姜 丹

本期责任编辑

郑礼胜

• 数据挖掘与循证医学 •

- 2303 结合 Bulk RNA 和 Single-cell RNA 测序探索年龄相关性黄斑变性能量代谢关键基因及调控中药化合物预测
史随随, 罗越毅, 唐梦丹, 祁宝玉, 周 剑, 巢国俊
- 2316 口服中成药治疗眩晕的网状 Meta 分析
马嘉琦, 徐才轩, 钟 东, 谢 乐, 李映辰, 伍大华
- 2332 基于中药系统毒理学数据库探讨中药致心脏毒性的作用特点及规律
陈 园, 刘慧敏, 钱文秀, 马 宁, 宋丽丽, 李遇伯
- 2343 基于 ARCH 类模型的当归价格指数波动影响因素分析及趋势预测
孙文婷, 严 辉, 张小波, 晋 玲, 闫 韬, 石玉强
汤少梁, 段金廛
- 2351 全球视域下的甘草科研知识图谱构建及可视化分析
何微微, 张亚龙, 席少阳, 黄璐琦, 晋 玲

• 药材与资源 •

- 2366 蒙古黄芩叶绿体全基因组特征解析及亲缘性分析
李俊霖, 郭淑红, 张 强, 张丽君, 田洪岭, 张 琼
- 2375 不同生态类型菘蓝 SLAF-seq 分子标记
刘 东, 孟瑾瑾, 王 盼, 陈红刚, 王惠珍, 杜 弢
- 2383 基于“初生-次生代谢产物”互作途径的大果沙棘和中华沙棘差异性研究
杨兴晶, 刘妍如, 唐志书, 宋忠兴, 周 蓬, 常百金
赵艳婷, 刘长乐
- 2397 基于一测多评结合熵权逼近理想解排序法对绵马贯众炭的质量评价
董双涛, 徐丽霞, 高建平, 李宝霞
- 2405 鸡血藤指纹图谱的建立及抗肿瘤谱效关系研究
聂钰湘, 郭占京, 阎雪晴, 韦敏珍, 余远智, 何丽霞, 黄宏妙

• 综 述 •

- 2413 蛹虫草的化学成分、药理作用及产业化研究进展
赵 璇, 田雨航, 庞道然, 高 兴, 郭英杰, 李 肖
- 2423 藤黄酸抗肿瘤作用机制及联合用药研究进展
孙 强, 涂柯蓉, 姜先梅, 齐 瑶, 杨尚沁, 吕亮亮, 丁欢欢
刘红梅, 蔡璐璐
- 2433 当药黄素治疗 2 型糖尿病的作用机制及研究进展
谢耀慧, 李昕蓉, 何军刚, 魏小成, 谢鑫明, 李成义
- 2442 从神经炎症角度论丹栀逍遥散抗抑郁作用机制的研究进展
吴梦迪, 刘黎明, 苏 攀, 许二平
- 2452 基于数据驱动的中药制药过程质量标志物 (Q-Marker) 监测方法研究及实践
张 磊, 林 梅, 陈雪艳, 苏小琴, 尚献召, 李德坤
张铁军, 鞠爱春
- 2463 原儿茶醛的神经保护作用机制研究进展
杨世瑜, 肖 雨, 安春娜, 邱昌龙, 李继安, 储金秀
- 2472 秦艽化学成分及药理活性研究进展
梁国成, 段文贵, 陈舒茵
- 2491 小檗碱在结直肠癌治疗中的作用机制研究进展
张明玥, 夏 玮, 韦珊珊, 耿一婷, 胡文蔚

本刊投稿须知见《中草药》2024, 55(1): 354-356.

期刊基本参数: CN 12-1108 R * 1970 * sm * A4 * 240 * zh * P * ¥ 60.00 * 3000 * 34 * 2024 - 07

CHINESE TRADITIONAL AND HERBAL DRUGS

Vol. 55 No. 7 April 2024

Chinese Traditional and Herbal Drugs

(Semimonthly)

Founded in January, 1970

Supervised by

Tianjin Institute of Pharmaceutical Research

Sponsored by

Tianjin Institute of Pharmaceutical Research

(www.tjipr.com)

Chinese Pharmaceutical Association

(www.cpa.org.cn)

Edited and Published by

Editorial Office of Chinese Traditional

and Herbal Drugs

Address: 306# Huirendao, Binhai District,
Tianjin, China

Post Code: 300462

Tel: +86-22-27474913

Fax: +86-22-23006821

http: // www.中草药杂志社.中国

www.tiprpress.com

E-mail: zcy@tiprpress.com

Standard Number

ISSN 0253-2670

CN 12-1108/R

CODEN CTYAD8

Editor-in-chief

LIU Changxiao

Executive Editor-in-chief

CHEN Changqing

Contents

• Chemical Constituents •

- 2131 Chemical constituents from *Arnebia euchroma*
WANG Le, WANG Shuhui, WANG Qiqi, WANG Yuqi, TU Pengfei
- 2142 Study on secondary metabolites of marine-derived *Penicillium* sp. HD-1-1
WANG Cong, WANG Yufei, XU Hui, XU Rui, LAN Jianzhou, KONG Fandong, ZHOU Liman
- 2152 Chemical constituents of *Campylotropis trigonoclada*
ZHAO Jianjun, LI Zhanguo, DING Qian, LI Xiaohui
- 2160 Comparison of differences in chemical components of different varieties of *Achyranthes bidentata* based on UPLC-Q-TOF-MS/MS technology combined with multivariate statistical analysis
YAN Luting, SONG Yonggui, AI Zhifu, LI Huizhen, YANG Ming, ZHU Genhua, ZHANG Qi, SHAO Wenxiang, YUAN En, SU Dan

• Pharmaceuticals and Technology •

- 2175 Study on processing technology of *Gardeniae Fructus* processed with ginger juice based on Box-Behnken design-response surface methodology and electronic eye
FAN Xingchen, QI Yufang, ZHANG Kewei, WANG Sichen, DAI Guiyu, LU Tulin, MAO Chunqin
- 2183 Chemical composition, HPLC fingerprinting, chemical pattern recognition and content determination of Shugan Hewei Decoction based on UPLC-Q-TOF-MS/MS
YUAN Chuanyu, HU Junjie, LI Juan, LIU Yanwen, LIU Songlin, CHEN Xin
- 2197 Preparation of genistein ternary inclusion complex by acid-base displacement combined with spray drying method
WANG Mingshuai, NING Xia, LIU Huashi, WANG Jingxia, DUAN Yahui, GENG Chenyang, WANG Weiming
- 2206 Prediction of moisture ratio for *Peucedani Radix* slices during microwave vacuum drying based on intelligent integrated model
HU Yijuan, LIANG Weiqing, XU Pan, TONG Yeling, LOU Kelang, PU Jinbao
- 2216 Preparation of solid lipid nanoparticles loaded with emodin based on quality by design principles
LI Nan, DENG Yanping
- 2227 Quality evaluation of Qianjin Huanglian Pills with different medicinal forms of *Rehmanniae Radix* based on fingerprints and components determination
ZHANG Chunya, ZHANG wei, LI Yingying, LEI Jingwei, YANG Yanrong, TIAN Hanju, ZHANG Juan, ZHAO Xinmei, DUAN Haohan, GONG Haiyan, YANG Chunjing, WANG Xiaoxiao

• Pharmacological Studies and Clinical Observations •

- 2237 Medicinal properties of *Rehmanniae Radix* in rats with cold syndrome based on metabolomics
ZHANG Wensen, CUI Na, SU Fazhi, ZHANG Zhuangzhuang, JIA Chenchen, SUN Yanping, YANG Bingyou, KUANG Haixue, WANG Qiuhong
- 2248 Antiviral effects of alantolactone *in vitro* and *in vivo*
LI Yiyi, CHU Yingjie, KONG Lingdong, XIE Fang, HE Yuting, LIU Xia, LI Junliang, LUO Zheng, ZHOU Yixiang, WANG Yao
- 2259 Pharmacodynamic ingredients of *Chelidonium Herba-Corydalis Rhizoma* drug pair in reversing adriamycin resistance in breast cancer
ZOU Xiang, ZHANG Xuerui, YU Jiahui, SUN Yuheng, ZHANG Yuhang, SHU Qi, QU Zhongyuan
- 2271 Effect and mechanism of different polarity fractions of *Bupleuri Radix* on hepatocellular carcinoma SMMC-7721 cells
WANG Weiyu, CHEN Yixiao, BAI Shuaidong, FENG Jianyou, QIN Xuemei, GAO Xiaoxia
- 2283 Effect and mechanism of volatile oil from disassembled prescription of Xiaoyao San on LPS-induced depressive-like model mice based on PI3K/Akt/Nrf2 signaling pathway
XIE Zhiqiang, HU Jingwen, ZENG Jiuseng, CHEN Li, XIE Hongxiao, FANG Yang, ZENG Nan
- 2292 Effect of Wenxin Granules on apoptosis, inflammation and oxidative stress in arrhythmic rats
QIAN Shule, YU Lu, LI Xiaofeng, WANG Runying, SONG Bohan, ZHAO Yuke, GUO Haizhen, DU Wuxun

Chinese Traditional and Herbal Drugs

(Semimonthly)

Founded in January, 1970

Advertising cooperation

Department of Media Operations, Tianjin

Press of Chinese Herbal Medicines

Tel: (022)23006868 23006895

Printed by

Tianjin Hengyuan Printing Co., Ltd.

Distribution

Tianjin Post Office

Subscription Domestic

Local Post Office

Subscription Overseas

China International Book Trading Corporation,

PO Box 399, Beijing 100044, China

Advertising Registration Number

BH 2020-01

Publication Date

April 12, 2024

Editor in Charge of English

JIANG Dan

Editor in Charge of This Issue

ZHENG Lisheng

· Data Mining and Evidence-Based Medicine ·

- 2303** Exploration of key energy metabolism-related genes in age-related macular degeneration combined with Bulk RNA and Single-cell RNA sequencing and prediction of regulated traditional Chinese medicine compounds
SHI Suisui, LUO Yueyi, TANG Mengdan, QI Baoyu, ZHOU Jian, CHAO Guojun
- 2316** Network Meta-analysis of oral Chinese patent medicine in treatment of vertigo
MA Jiaqi, XU Caixuan, ZHONG Dong, XIE Le, LI Yingchen, WU Dahua
- 2332** Exploration of characteristics and regularity of cardiotoxicity induced by traditional Chinese medicine based on TCMSTD
CHEN Yuan, LIU Huimin, QIAN Wenxiu, MA Ning, SONG Lili, LI Yubo
- 2343** Analysis of influencing factors and trend prediction of price index fluctuation of *Angelicae Sinensis Radix* based on ARCH model
SUN Wenting, YAN Hui, ZHANG Xiaobo, JIN Ling, YAN Tao, SHI Yuqiang, TANG Shaoliang, DUAN Jinao
- 2351** Construction and visual analysis of scientific knowledge graph of *Glycyrrhizae Radix et Rhizoma* from global perspective
HE Weiwei, ZHANG Yalong, XI Shaoyang, HUANG Luqi, JIN Ling

· Medicinal Materials ·

- 2366** Characteristics and phylogenetic analysis of *Astragalus membranaceus* var. *mongholicus* chloroplast whole genome
LI Junlin, GUO Shuhong, ZHANG Qiang, ZHANG Lijun, TIAN Hongling, ZHANG Qiong
- 2375** SLAF-seq molecular markers in different ecological types of *Isatis tinctoria*
LIU Dong, MENG Jinjin, WANG Pan, CHEN Honggang, WANG Huizhen, DU Tao
- 2383** Difference between *Hippophae rhamnoides* vat. sp and *Hippophae rhamnoides* based on “primary-secondary metabolite” interaction pathway
YANG Xingjing, LIU Yanru, TANG Zhishu, SONG Zhongxing, ZHOU Peng, CHANG Baijin, ZHAO Yanting, LIU Changle
- 2397** Quality evaluation of *Dryopteridis Crassirhizomatis Rhizoma Carbonisatum* based on QAMS and EW-TOPSIS method
DONG Shuangtao, XU Lixia, GAO Jianping, LI Baoxia
- 2405** Establishment of fingerprints and spectrum-effect relationship of anti-tumor activity of *Spatholobi Caulis*
NIE Yuxiang, GUO Zhanjing, XIA Xueqing, WEI Minzhen, YU Yuanzhi, HE Lixia, HUANG Hongmiao

· Reviews ·

- 2413** Research progress on chemical composition, pharmacological effects and industrialization of *Cordyceps militaris*
ZHAO Xuan, TIAN Yuhang, PANG Daoran, GAO Xing, GUO Yingjie, LI Xiao
- 2423** Research progress on antitumor mechanisms and combination therapies of gambogic acid
SUN Qiang, TU Kerong, JIANG Xianmei, QI Yao, YANG Shangqin, LYU Liangliang, DING Huanhuan, LIU Hongmei, CAI Lulu
- 2433** Mechanism of action and research progress on swertisin in treatment of type 2 diabetes mellitus
XIE Yaohui, LI Xinrong, HE Jungang, WEI Xiaocheng, XIE Xinming, LI Chengyi
- 2442** Research progress on anti-depression effect of Danzhi Xiaoyao Powder from perspective of neuroinflammation
WU Mengdi, LIU Liming, SU Pan, XU Erping
- 2452** Method for monitoring quality marker in manufacturing process of traditional Chinese medicine based on data-driving and its application
ZHANG Lei, LIN Mei, CHEN Xueyan, SU Xiaoqin, SHANG Xianzhao, LI Dekun, ZHANG Tiejun, JU Aichun
- 2463** Research progress on neuroprotective mechanism of protocathechuic aldehyde
YANG Shiyu, XIAO Yu, AN Chunna, QIU Changlong, LI Ji'an, CHU Jinxiu
- 2472** Research progress on chemical composition and pharmacological activity of *Gentianae Macrophyllae Radix*
LIANG Guocheng, DUAN Wengui, CHEN Shuyin
- 2491** Research progress on mechanism of action of berberine in treatment of colorectal cancer
ZHANG Mingyue, XIA Wei, WEI Shanshan, GENG Yiting, HU Wenwei