



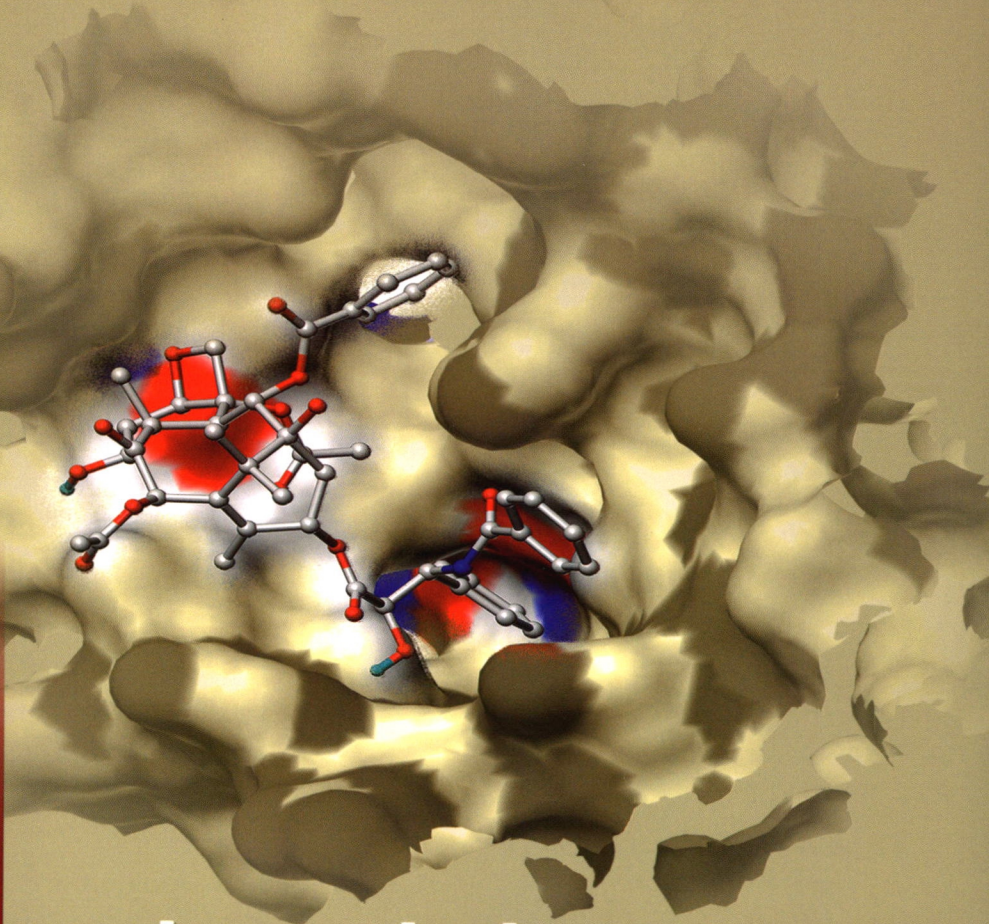
药 学 学 报

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专家论坛

陈士林等

中药与天然药物2015~2020年研究

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影响糖尿病伤口愈合机制研究进展



中国药学会
中国医学科学院药物研究所

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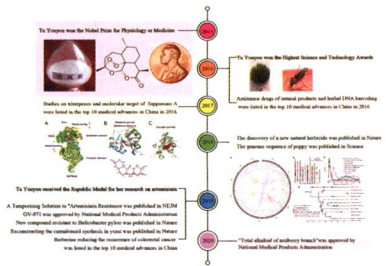
2751

中药与天然药物 2015~2020 年研究亮点评述

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中药与天然药在 2015~2020 年度取得多项突破性进展, 本文梳理总结了这五年期间国内外科学家在国际著名期刊发表中药与天然药相关的亮点学术成果, 并对其在化学、药物资源、药理、制剂、新药开发等相关领域取得的重要进展进行了评述, 以期追踪和报道中药与天然药领域发展的前沿和热点, 并通过对其的分析得出学科发展的启示和展望。



综述

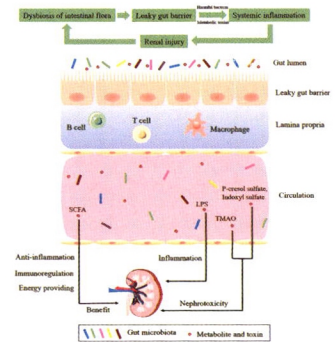
2777

肠道菌群-代谢物网络同慢性肾病发生发展的关系及其关联机制研究进展

李昭君, 陈晓光*, 张森*

(中国医学科学院、北京协和医学院药物研究所, 北京 100050)

肠道菌及其代谢物与慢性肾病的双向交流。慢性肾病影响肠道菌群的组成和代谢; 菌群失调进一步导致微生物源性尿毒素和微炎症的增加。



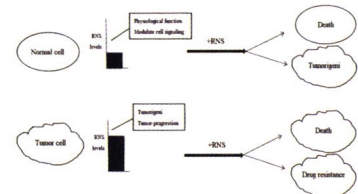
2785

活性氮对细胞保护和损伤作用研究进展

陈素娟¹, 庞晨晨¹, 刘彬^{1*}, 皇甫超申^{2*}

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在正常细胞和肿瘤细胞内, 活性氮 (RNS) 水平在该细胞毒性阈值内促进细胞生长, RNS 过高超过细胞的防御能力, 则损伤细胞。



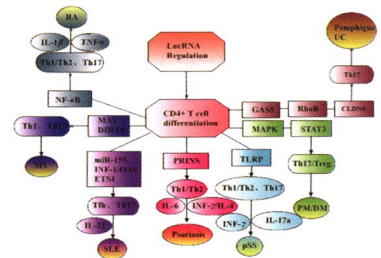
2793

lncRNA 与自身免疫性疾病 CD4⁺ T 淋巴细胞亚群分化的关系研究进展

刘楠, 李纳, 马晓华, 朱琳, 时程程*

(郑州大学第一附属医院药学部, 河南 郑州 450000)

lncRNA 能通过调节 CD4⁺ T 淋巴细胞亚群的分化, 参与 AID 的发生与发展。



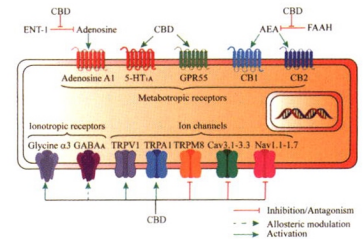
2800

大麻二酚在神经精神疾病中的作用与分子机制研究进展

吴军, 于海波*

(中国医学科学院、北京协和医学院药物研究所, 天然药物活性物质与功能国家重点实验室, 北京 100050)

大麻二酚通过靶向 5-HT_{1A} 受体、GABA_A 受体、腺苷 A1 受体、甘氨酸α3 受体、GPR55、TRP 通道、电压门控性钠通道 (Nav)、T 型钙离子通道 (Cav3) 及内源性大麻素系统等靶点表现出治疗癫痫、神经病理性疼痛、焦虑症和抑郁症的潜力。



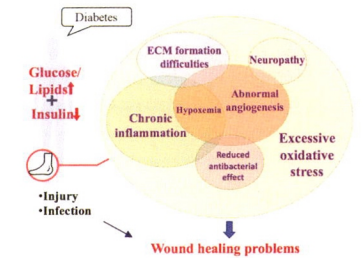
2811

影响糖尿病伤口愈合机制研究进展

王诺琦, 杨秀颖*, 杜冠华*

(中国医学科学院、北京协和医学院药物研究所, 药物靶点研究与新药筛选北京市重点实验室, 北京 100050)

本文总结了导致糖尿病患者皮肤伤口愈合困难机制, 涉及代谢紊乱引起的多种机制间相互促进和联合作用。



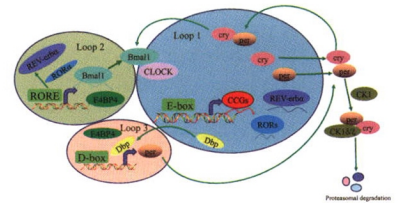
2818

生物钟系统调控机体代谢的分子机制及中药干预研究进展

陈振山¹, 张耀文¹, 王小明^{2,3,4}, 田振华^{2,3,4}, 蒋海强^{2,3,4*}, 齐冬梅^{2,3,4}

(1. 山东中医药大学药学院, 山东 济南 250355; 2. 山东中医药大学实验中心, 山东 济南 250355; 3. 山东省中医药基础研究重点实验室, 山东 济南 250355; 4. 山东中医药大学, 教育部中医药经典理论重点实验室, 山东 济南 250355)

昼夜节律产生和维持机制依赖于以 E 反应元件、D 反应元件和 ROR 应答元件为核心的反馈回路。



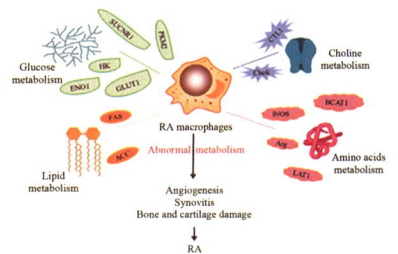
2827

巨噬细胞异常代谢在类风湿关节炎病理机制中的作用和研究进展

王越业, 常艳*, 魏伟*

(安徽医科大学临床药理研究所, 抗炎免疫药物教育部重点实验室, 抗炎免疫药物安徽省协同创新中心, 安徽 合肥 230032)

本文综述了类风湿关节炎巨噬细胞的葡萄糖代谢、胆碱代谢、氨基酸代谢和脂质代谢的异常变化, 以及目前治疗类风湿关节炎的药物中可以调控巨噬细胞的药物。



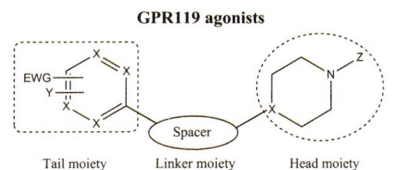
2834

G 蛋白偶联受体 119 激动剂的研究进展

石素梅, 房元英, 刘荣华, 杨尊华*

(江西中医药大学药学院, 江西 南昌 330004)

人们在过去十几年里不断努力, 仍未能开发出应用于临床治疗的 G 蛋白偶联受体 119 (GPR119) 激动剂。令人鼓舞的是, GPR119 激动剂的最新进展让我们看到了这个探索已久的靶点的新希望。



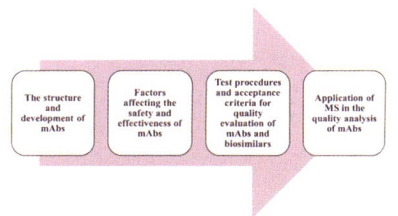
2843

单克隆抗体药物质量分析质谱技术研究进展

朱文文#, 李梦林#, 张金兰*

(中国医学科学院、北京协和医学院药物研究所, 天然药物活性物质与功能国家重点实验室, 北京 100050)

本文综述了单抗药物结构与发展历程、影响单抗药物安全性和有效性的因素、单抗药物质量特性检测方法和可接受标准、质谱技术在单抗药物质量分析中的应用。



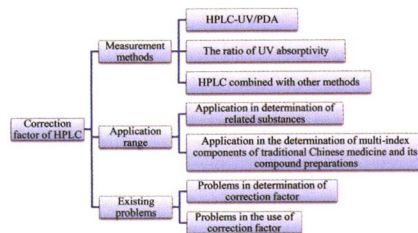
2854

HPLC 校正因子法在药物分析中的应用

肖亭, 王晨, 姚尚辰, 冯艳春*, 胡昌勤*

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本文在分析国内外近年来校正因子相关文献的基础上, 介绍了校正因子的定义、测定方法和应用情况; 阐述了目前杂质校正因子在测定和应用中的一些规律和要点, 并对其在测定和应用中存在的问题进行了讨论, 为今后校正因子测定的标准化和规范化研究提供了参考依据。



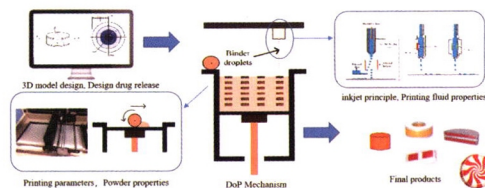
2862

粉液粘结型 3D 打印技术原理及在固体药物制剂中的应用与面临的挑战

陈如心^{1,2}, 王增明², 韩晓璐², 刘中成^{1*}, 郑爱萍^{2*}

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3D 打印技术较传统制药技术具有空间分布精确、释药精准和药物剂量个性化等优势, 本文就粉液粘结型 3D 打印技术进行综述, 重点阐述了粉液粘结原理, 剖析了打印液喷射、粉体性质和打印参数对打印成型性的影响, 并介绍该技术目前在药物制剂中 (速释、缓控释、植入剂) 的应用, 展示了该技术在药物制剂领域的特有优势及广阔前景。



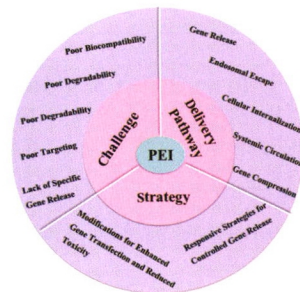
2869

非病毒型载体聚乙烯亚胺在基因递送应用中的研究进展

江翠平, 王媛, 肖海燕, 赵海越, 刘强*

(南方医科大学中医药学院, 广东省中药制剂重点实验室, 广东省中药制剂技术工程实验室, 广东 广州 510515)

聚乙烯亚胺 (PEI) 作为基因载体在体内的递送过程、临床面临的挑战及其解决策略。



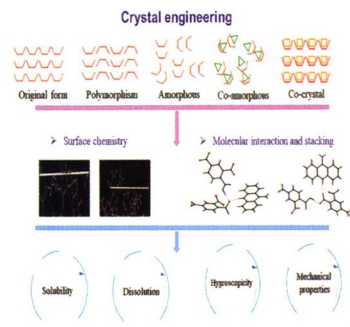
2883

晶体工程技术改善药物理化性质以提高成药性

翁兴业¹, 庞遵霆², 钱帅², 魏元锋², 高缘², 张建军^{1*}

(1. 中国药科大学药学院, 江苏 南京 211198; 2. 中国药科大学中药学院, 江苏 南京 211198)

通过晶体工程技术可改变药物的固体形态, 使其具有不同的药学性质, 从而影响制剂工艺和药品质量。



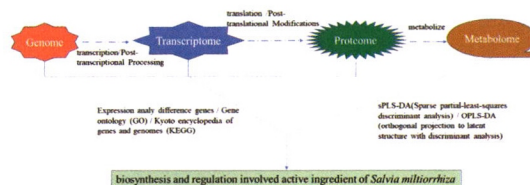
2892

基于多组学的丹参活性成分生物合成与调控研究进展

詹忠根*

(浙江经贸职业技术学院生物制药教研室, 浙江 杭州 310018)

文章在系统总结丹参基因组学、转录组学、蛋白质组学和代谢组学研究进展的基础上, 归纳了丹参活性成分生物合成、调控及相关功能基因的研究概况, 并提出未来亟待深入研究的科学问题。



研究论文

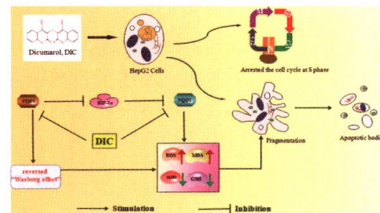
2904

双香豆素体外抗肿瘤活性筛选及相关机制初探

魏静¹, 冯跃平¹, 郑茜², 王钦¹, 张春^{1*}

(1. 西南医科大学药学院, 四川 泸州 646000; 2. 四川卫生康复职业学院, 四川 自贡 643000)

双香豆素具有显著的抗肿瘤作用, 其可诱导 HepG2 细胞发生周期阻滞和细胞凋亡。双香豆素可能通过抑制 HepG2 细胞中 PDK1 和 NQO1 的表达, 导致 HIF-1 α 下调、ROS 聚集, 从而产生细胞氧化应激促使 HepG2 细胞凋亡。



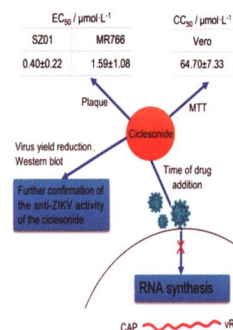
2911

环索奈德体外抑制寨卡病毒复制

姚债文^{1,2}, 汪芳^{2,3}, 陈秀秀^{1,2}, 郑昌博⁴, 杨柳萌², 熊思东^{1*}, 郑永唐^{2*}

(1. 苏州大学药学院, 江苏 苏州 215021; 2. 中国科学院昆明动物研究所, 云南省活性多肽研究与利用重点实验室/中国科学院动物模型与人类疾病机理重点实验室, 云南 昆明 650223; 3. 昆明理工大学医学院, 云南 昆明 650500; 4. 昆明医科大学药学院暨云南省天然药物药理重点实验室, 云南 昆明 650500)

环索奈德在细胞水平上具有显著的抗寨卡病毒 (ZIKV) 活性, 主要通过抑制 ZIKV RNA 合成发挥抗病毒作用。



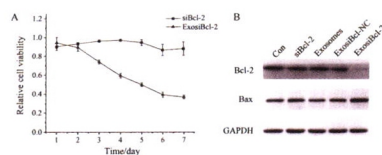
2918

负载 Bcl-2 siRNA 外泌体的制备及其对胰腺癌细胞生长抑制作用

左玲¹, 乔滢^{1,2}, 郭铭悦¹, 林秀坤¹, 刘明华^{1,2*}

(1. 西南医科大学药学院, 四川 泸州 646000; 2. 厅市共建中枢神经系统药物四川省重点实验室, 四川 泸州 646000)

负载 Bcl-2 siRNA 的外泌体可以高效进入肿瘤细胞, 通过下调 Bcl-2 的表达抑制胰腺癌细胞的生长。



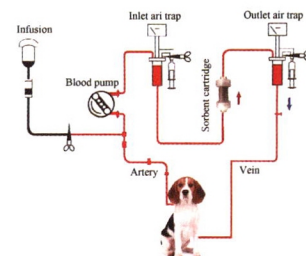
2924

血液灌流清除慢性肾病代表性毒素频度和效果的研究

安梦瑶^{1,2}, 葛鹏², 胡雷², 钟飞², 周博宇², 刘昌孝^{1,2,3*}

(1. 天津大学化工学院制药工程, 天津 300072; 2. 天津天诚新药评价有限公司, 天津 300301; 3. 天津药物研究院, 释药技术与药物代谢动力学国家重点实验室, 天津 300193)

慢性肾病 (CKD) 比格犬血液灌流工作原理图。



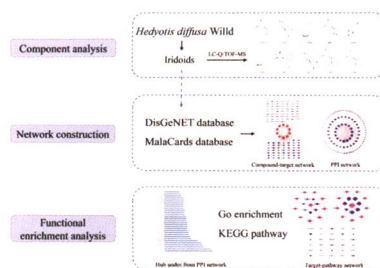
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白花蛇舌草环烯醚萜的鉴定及基于网络药理学的抗肾纤维化作用的机制研究

董雅倩¹, 张佳幸², 龚琳娜¹, 石碧锐¹, 周风华², 肖炜², 刘孟华^{1*}

(1. 南方医科大学药学院, 广东 广州 510515; 2. 南方医科大学中医药学院, 广东 广州 510515)

鉴于中药多成分、多靶点的特点, 应用网络药理学探究白花蛇舌草环烯醚萜的抗纤维化作用机制, 以为后续研究提供理论参考。



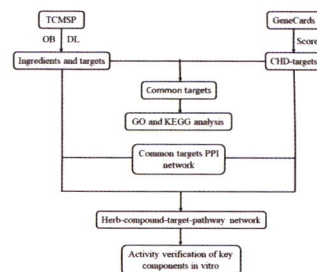
2942

基于网络药理学的丹七片治疗冠心病作用机制研究

马林¹, 邵明燕¹, 孙乾斌¹, 李春², 王勇^{3*}

(1. 北京中医药大学生命科学院, 北京 100029; 2. 北京中医药大学中药学院, 北京 100029; 3. 北京中医药大学中医学院, 北京 100029)

本文利用网络药理学的方法, 并结合体外细胞实验验证, 初步揭示了丹七片治疗冠心病的起效成分和作用机制。



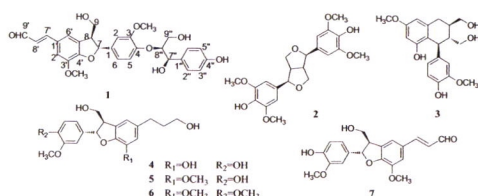
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皂角刺中的一个新木脂素

何晨^{1,2}, 曹彦刚^{1,2}, 齐曼^{1,2}, 张贝贝^{1,2}, 任英杰^{1,2}, 刘晏灵^{1,2}, 王梦娜^{1,2}, 郑晓珂^{1,2}, 冯卫生^{1,2*}

(1. 河南中医药大学药学院, 河南 郑州 450046; 2. 河南省中药开发工程技术研究中心, 河南 郑州 450046)

本文报道了1个新的和6个首次从皂荚属中分离得到的木脂素类化合物的结构解析及其对脂多糖诱导的大鼠肾小管上皮细胞 (NRK-52e 细胞) 损伤的干预作用。



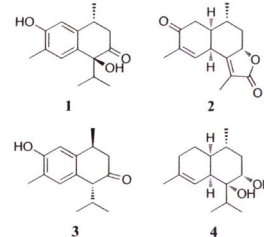
2955

紫茎泽兰中一个新的杜松烷型倍半萜

梁旭¹, 杨新洲², 吴超群², 李余钊², 袁经权^{1*}

(1. 广西中医药大学, 广西 南宁 530200; 2. 中南民族大学药学院, 湖北 武汉 430074)

本文采用多种分离纯化方法从紫茎泽兰 95%乙醇提取物的石油醚部位分离得到1个新的和3个已知的杜松烷型倍半萜, 通过 NOESY 和 ECD 确定了新化合物的相对构型和绝对构型, 并对化合物 1~4 进行了抗肿瘤活性测试。



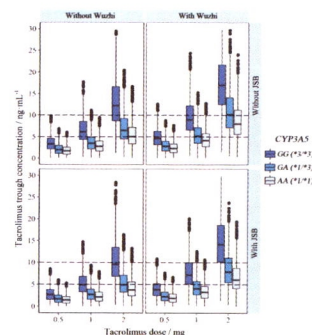
2960

中国特发性膜性肾病患者他克莫司群体药动力学研究

魏传梅¹, 苟春霞¹, 曹康娜^{2,3}, 刘晓芹^{2,4}, 高菲¹, 蔺婷婷^{1*}, 焦正^{2*}

(1. 滨州医学院附属医院药学部, 山东 滨州 256603; 2. 上海市胸科医院, 上海交通大学附属胸科医院, 上海 200030; 3. 中国药科大学临床药理学实验室, 江苏 南京 211198; 4. 复旦大学附属华山医院, 上海 200040)

本研究发现金水宝胶囊可加快中国特发性膜性肾病患者他克莫司的体内清除。



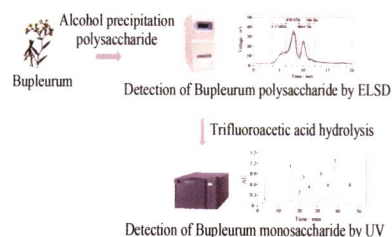
2968

基于糖特征图谱的不同柴胡的品种鉴别

石丽霞^{1,2}, 李科^{1,2,3*}, 秦雪梅^{1,2}, 李震宇^{1,2}, 崔连杰^{1,2}, 李树颖^{1,2}, 曹宇欣^{1,2}, 王盛金⁴

(1. 山西大学中医药现代研究中心, 山西 太原 030006; 2. 山西大学, 化学生物学与分子工程教育部重点实验室, 山西 太原 030006; 3. 中国科学院过程工程研究所, 北京 100190; 4. 山西省晋城市陵川县农业综合开发中心, 山西 晋城 048300)

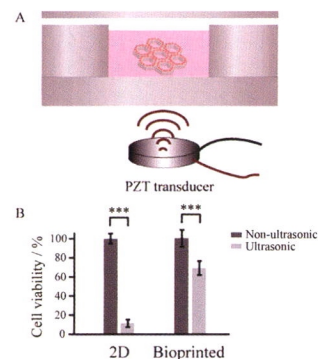
本文以糖类化合物为主要评价指标, 通过建立柴胡的多糖特征图谱和单糖特征图谱, 找出不同柴胡的糖谱差异, 为不同品种柴胡的鉴别提供依据。



2976

生物打印 HepG2 细胞用于二氢卟吩 e6 的声动力抗癌活性研究李晓瑞¹, 邓权锋², 罗勇^{1*}, 林炳承³, 赵伟杰^{1*}, 张秀莉²(1. 大连理工大学, 辽宁 大连 116024; 2. 苏州大学, 江苏 苏州 215123;
3. 中国科学院大连化学物理研究所, 辽宁 大连 116023)

生物打印技术构建的 HepG2 三维肝肿瘤组织用于声敏药物二氢卟吩 e6 的声动力抗癌活性研究。

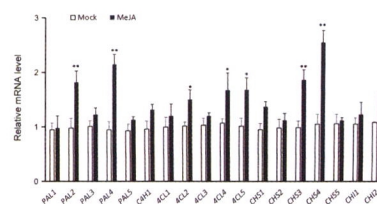


2982

茉莉酸甲酯诱导和不同花色红花中羟基红花黄色素 A 积累差异的机制分析谭政委¹, 李磊¹, 杨红旗¹, 余永亮¹, 许兰杰¹, 董薇¹, 夏伟¹, 马新明², 梁慧珍^{1*}

(1. 河南省农业科学院芝麻研究中心, 河南 郑州 450002; 2. 河南农业大学信息与管理科学学院, 河南 郑州 450002)

茉莉酸甲酯通过上调羟基红花黄色素 A (HSYA) 生物合成相关基因的表达促进 HSYA 的积累。

**新药论坛**

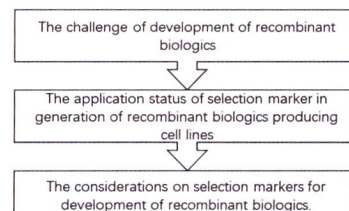
2989

重组蛋白药物生产用哺乳动物细胞系构建中筛选标记的应用现状及审评思考

崔颖, 白玉, 程速远*

(国家药品监督管理局药品审评中心, 北京 100022)

本文以 CHO 细胞为例, 介绍筛选标记应用现状及提高筛选严谨性的方法, 从审评角度提出对细胞基质稳定性及筛选标记安全性的思考。

**新药发现与研究实例简析**

2994

白三烯拮抗剂扎鲁司特的研制

郭宗儒

(中国医学科学院、北京协和医学院药物研究所, 北京 100050)

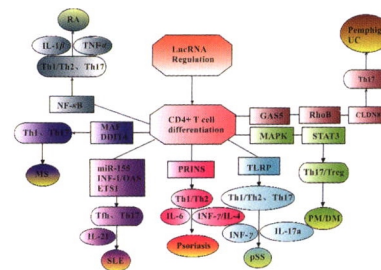
2793

Relationship between lncRNA and the differentiation of CD4⁺ T lymphocyte subsets in autoimmune diseases

LIU Nan, LI Na, MA Xiao-hua, ZHU Lin, SHI Cheng-cheng*

(Department of Pharmacy, the First Affiliated Hospital of Zhengzhou University, Zhengzhou 450000, China)

lncRNA can participate in the occurrence and development of AID by regulating the differentiation of CD4⁺ T lymphocyte subsets.



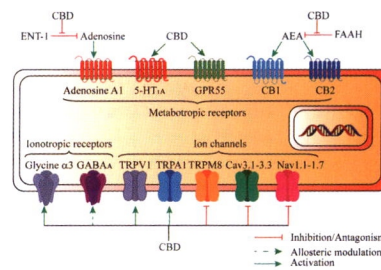
2800

Recent advances in understanding the roles and molecular mechanisms of cannabidiol in neuropsychiatric disorders

WU Jun, YU Hai-bo*

(State Key Laboratory of Bioactive Substances and Functions of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Science and Peking Union Medical College, Beijing 100050, China)

Cannabidiol (CBD) is a potential drug in treating epilepsy, neuropathic pain, anxiety and depression by targeting 5-HT_{1A} receptor, GABA_A receptors, adenosine A1 receptor, glycine α₃ receptor, GPR55, TRP channels, voltage gated sodium channels (Nav), T-type calcium channels (Cav3) and endocannabinoid system.



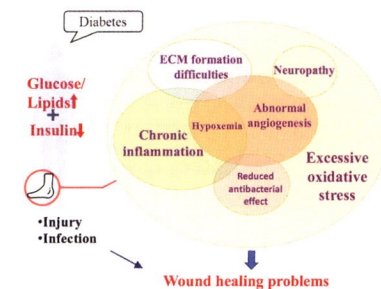
2811

Advances in research on mechanisms of diabetic wound healing

WANG Nuo-qi, YANG Xiu-ying*, DU Guan-hua*

(Beijing Key Laboratory of Drug Target and Screening Research, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China)

This paper summarized the mechanism of skin wound healing difficulty in patients with diabetes, involving a variety of interactive and joint mechanisms caused by metabolic disorders.



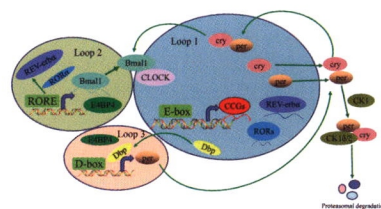
2818

The molecular mechanism by which the circadian rhythm regulates body metabolism and research progress on intervention in the circadian rhythm by traditional Chinese medicine

CHEN Zhen-shan¹, ZHANG Yao-wen¹, WANG Xiao-ming^{2,3,4}, TIAN Zhen-hua^{2,3,4}, JIANG Hai-qiang^{2,3,4}*, QI Dong-mei^{2,3,4}

(1. School of Pharmaceutical Sciences, Shandong University of Traditional Chinese Medicine, Jinan 250355, China; 2. Experimental Center, Shandong University of Traditional Chinese Medicine, Jinan 250355, China; 3. Shandong Provincial Key Laboratory of Traditional Chinese Medicine for Basic Research, Jinan 250355, China; 4. Key Laboratory of Traditional Chinese Medicine Classical Theory, Ministry of Education, Shandong University of Traditional Chinese Medicine, Jinan 250355, China)

The mechanism of circadian rhythm generation and maintenance relies on the feedback loop with E-box, D-box and RORE as the core.



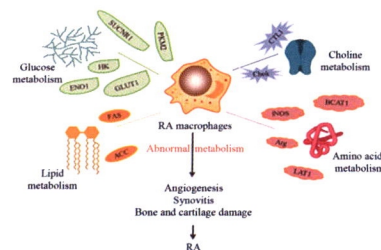
2827

Research progress on the abnormal metabolism of macrophages in rheumatoid arthritis pathogenesis

WANG Yue-ye, CHANG Yan*, WEI Wei*

(Institute of Clinical Pharmacology, Anhui Medical University, Key Laboratory of Anti-inflammatory and Immune Medicine, Ministry of Education, Anhui Collaborative Innovation Center of Anti-inflammatory and Immune Medicine, Hefei 230032, China)

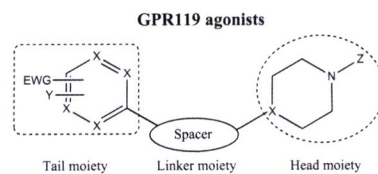
This article reviews the abnormal changes in glucose metabolism, choline metabolism, amino acids metabolism, and lipids metabolism of rheumatoid arthritis (RA) macrophages, as well as drugs that can regulate macrophages in the current treatment of RA.



2834

Recent advances in G protein coupled receptor 119 agonists

SHI Su-mei, FANG Yuan-ying, LIU Rong-hua, YANG Zun-hua*
(College of Pharmacy, Jiangxi University of Traditional Chinese Medicine, Nanchang 330004, China)

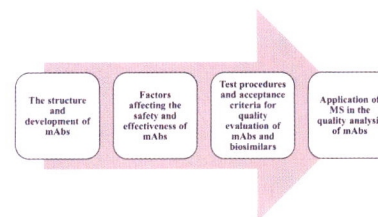


Continuous efforts in the past ten years failed to develop G protein-coupled receptor 119 (GPR119) agonists for clinical treatments. Encouragingly, recent progress in the development GPR119 agonists bring new hope for this long-pursued target.

2843

Development of mass spectrometry technique for quality assessment of monoclonal antibodies

ZHU Wen-wen#, LI Meng-lin#, ZHANG Jin-lan*
(State Key Laboratory of Bioactive Substance and Function of Natural Medicines, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China)

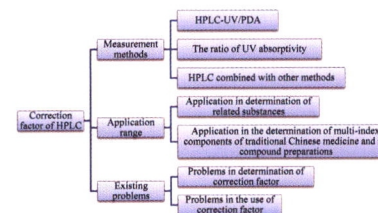


In this paper, the structure and development of monoclonal antibodies (mAbs), the factors affecting the safety and effectiveness of mAbs, the feasible test procedures and acceptance criteria for quality evaluation of mAbs and biosimilars, and the application of mass spectrometry (MS) in the quality analysis of mAbs were reviewed.

2854

Application of an HPLC correction factor method in pharmaceutical analysis

XIAO Ting, WANG Chen, YAO Shang-chen, FENG Yan-chun*, HU Chang-qin*
(National Institutes for Food and Drug Control, Beijing 102629, China)

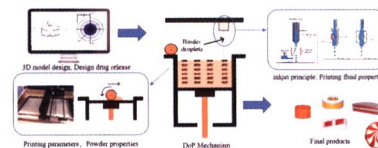


By analyzing the domestic and foreign literature on correction factors in recent years, this paper describes the correction factor component, the current measurement method and its application. The rules and key points of use of an impurity correction factor and its determination and application are described, and some problems in its determination and application are discussed, providing reference and basis for the standardization of research on impurity correction factors in the future.

2862

The principle of drop-on-powder 3D printing and its application and challenge in solid preparation

CHEN Ru-xin^{1,2}, WANG Zeng-ming², HAN Xiao-lu², LIU Zhong-cheng^{1*}, ZHENG Ai-ping^{2*}
(1. College of Pharmacy, Hebei University, Baoding 071002, China; 2. Institute of Pharmacology and Toxicology, Academy of Military Medical Sciences, Academy of Military Sciences, Beijing 100850, China)



Compared with traditional pharmaceutical technologies, 3D printing technology has advantages such as accurate spatial distribution, accurate drug release and personalized drug dose. In this review chose the drop-on powder (DoP) 3D printing technology, makes a concise overview of the working principle, analyzes the printing liquid injection, powder properties and printing parameters on the impact of print. It also introduces the current application of DoP in pharmaceutical preparations (rapid release, sustained and controlled release, implants, etc.), and demonstrates its unique advantages and broad prospects in the field of pharmaceutical preparations.

2869

Recent progress of non-viral vector polyethylenimine in the application of gene delivery

JIANG Cui-ping, WANG Yuan, XIAO Hai-yan, ZHAO Hai-yue, LIU Qiang*
(Guangdong Provincial Engineering Laboratory of Chinese Medicine Preparation Technology, Guangdong Provincial Key Laboratory of Chinese Medicine Pharmaceuticals, School of Traditional Chinese medicine, Southern Medical University, Guangzhou 510515, China)



The delivery pathways, challenges exist in the clinical application and the most impressive strategies made to overcome the challenges of polyethylenimine (PEI)-based gene vector.

2883

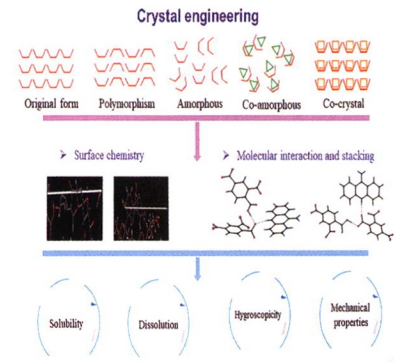
Druggability enhancement by modification of physicochemical properties of drugs *via* crystal engineering

WENG Xing-ye¹, PANG Zun-ting², QIAN Shuai², WEI Yuan-feng², GAO Yuan², ZHANG Jian-jun^{1*}

(1. School of Pharmacy, China Pharmaceutical University, Nanjing 211198, China;

2. School of Traditional Chinese Pharmacy, China Pharmaceutical University, Nanjing 211198, China)

Crystal engineering technology can change the solid form of drugs, which exhibit different pharmaceutical properties, thus affecting the preparation process and drug quality.



2892

Advances in biosynthesis and regulation of the active ingredient of *Salvia miltiorrhiza* based on multi-omics approach

ZHAN Zhong-gen*

(Biopharmaceutical Laboratory, Zhejiang Institute of Economics and Trade, Hangzhou 310018, China)

Based on a systematic review of genomics, transcriptomics, proteomics and metabolomics associated with *Salvia miltiorrhiza*, the paper summarized the advances in biosynthesis, regulation and related functional genes and also put forward some scientific problems of *Salvia miltiorrhiza* that need to be further studied in the future.



Original Articles

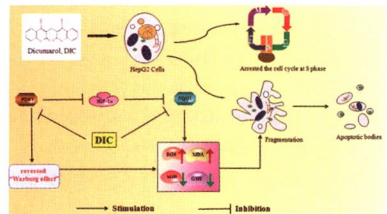
2904

Anti-tumor activity screening and research on the primary mechanism of dicumarol *in vitro*

WEI Jing¹, FENG Yue-ping¹, ZHENG Xi², WANG Qin¹, ZHANG Chun^{1*}

(1. Department of Pharmacy, Southwest Medical University, Luzhou 646000, China; 2. Sichuan Vocational College of Health and Rehabilitation, Zigong 643000, China)

Dicumarol shows significant anti-tumor activity and induces cell cycle arrest and apoptosis in HepG2 cells. Dicumarol could down-regulate the expression of HIF-1 α by inhibiting the activity of NQO1 and PDK1, which leads to the accumulation of ROS, and generating oxidative stress and inducing apoptosis in HepG2 cells.



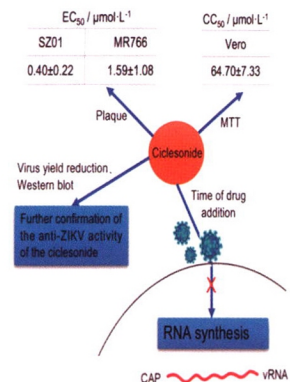
2911

Ciclesonide inhibits Zika virus replication *in vitro*

YAO Zhai-wen^{1,2}, WANG Fang^{2,3}, CHEN Xiu-xiu^{1,2}, ZHENG Chang-bo⁴, YANG Liu-meng², XIONG Si-dong^{1*}, ZHENG Yong-tang^{2*}

(1. College of Pharmacy, Soochow University, Suzhou 215021, China; 2. Key Laboratory of Bioactive Peptides of Yunnan Province/Key Laboratory of Animal Models and Human Disease Mechanisms of the Chinese Academy of Sciences, Kunming Institute of Zoology, Chinese Academy of Sciences, Kunming 650223, China; 3. College of Medicine, Kunming University of Science and Technology, Kunming 650500, China; 4. School of Pharmaceutical Science and Yunnan Key Laboratory of Pharmacology for Natural Products, Kunming Medical University, Kunming 650500, China)

Ciclesonide has significant anti-Zika virus (ZIKV) activity at the cellular level, and mainly exerts antiviral effects by inhibiting ZIKV RNA synthesis.

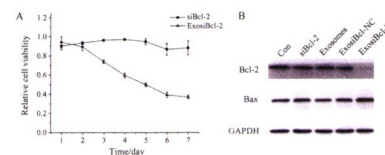


2918

Preparation of exosome-coated Bcl-2 siRNA and its inhibitory effect on the growth of pancreatic cancer cells

ZUO Ling¹, QIAO Gan^{1,2}, GUO Ming-yue¹, LIN Xiu-kun¹, LIU Ming-hua^{1,2*}
 (1. School of Pharmacy, Southwest Medical University, Luzhou 646000, China; 2. Central Nervous System Drug Key Laboratory of Sichuan Province, Luzhou 646000, China)

Exosome-coated Bcl-2 siRNA is able to enter cancer cells efficiently, and inhibits the growth of pancreatic cancer cells by downregulating Bcl-2.

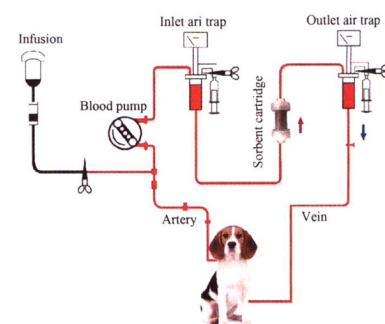


2924

Safety and effectiveness of hemoperfusion on the removal of uremic toxins in chronic kidney disease

AN Meng-yao^{1,2}, GE Peng², HU Lei², ZHONG Fei², ZHOU Bo-yu², LIU Chang-xiao^{1,2,3*}
 (1. Department of Pharmaceutical Engineering, School of Chemical Engineering and Technology, Tianjin University, Tianjin 300072, China; 2. Tianjin Tiancheng New Drug Evaluation Research Co., Ltd., Tianjin 300301, China; 3. State Key Laboratory of Drug Delivery Technology and Pharmacokinetics, Tianjin Institute of Pharmaceutical Research, Tianjin 300193, China)

Working principle diagram of hemoperfusion on chronic kidney disease (CKD) beagles.

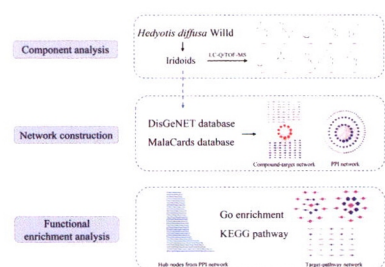


2934

Identification of the iridoids of *Hedyotis diffusa* Willd and its mechanism on renal fibrosis based on network pharmacology

DONG Ya-qian¹, ZHANG Jia-xing², GONG Lin-na¹, SHI Bi-rui¹, ZHOU Feng-hua², XIAO Wei², LIU Meng-hua^{1*}
 (1. School of Pharmaceutical Sciences, Southern Medical University, Guangzhou 510515, China; 2. College of Traditional Chinese Medicine, Southern Medical University, Guangzhou 510515, China)

According to the characteristics of multi-component and multi-target in Chinese medicine, network pharmacology was applied to explore the mechanism of iridoids of *Hedyotis diffusa* Willd on renal fibrosis to provide guide information for the post-study.

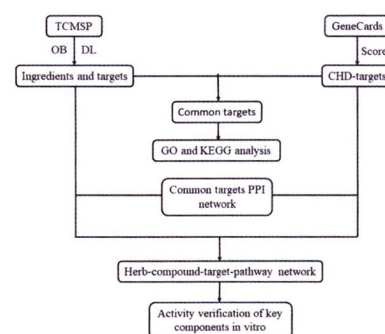


2942

The mechanism of Danqi tablets in the treatment of coronary heart disease based on network pharmacology

MA Lin¹, SHAO Ming-yan¹, SUN Qian-bin¹, LI Chun², WANG Yong^{3*}
 (1. School of Life Science, Beijing University of Chinese Medicine, Beijing 100029, China; 2. School of Chinese Medicine, Beijing University of Chinese Medicine, Beijing 100029, China; 3. School of Traditional Chinese Medicine, Beijing University of Chinese Medicine, Beijing 100029, China)

In this paper, the method of network pharmacology, combined with *in vitro* cell experiment verification, initially revealed the effective components and mechanism of action of Danqi tablets in the treatment of coronary heart disease.

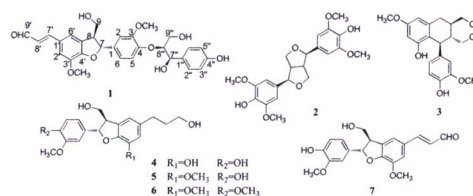


2951

A new lignan from *Gleditsiae spina*

HE Chen^{1,2}, CAO Yan-gang^{1,2}, QI Man^{1,2}, ZHANG Bei-bei^{1,2},
REN Ying-jie^{1,2}, LIU Yan-ling^{1,2}, WANG Meng-na^{1,2}, ZHENG Xiao-ke^{1,2},
FENG Wei-sheng^{1,2*}

(1. School of Pharmacy, Henan University of Chinese Medicine, Zhengzhou 450046, China; 2. The Engineering and Technology Center for Chinese Medicine Development of Henan Province China, Zhengzhou 450046, China)



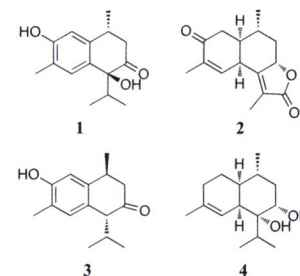
The paper reports the structural analysis of a new and six known lignans isolated from the *Gleditsia* L., and their effects on LPS-induced injury of NRK-52e cells.

2955

A new cadinane-type sesquiterpenoid from *Eupatorium adenophorum* Spreng

LIANG Xu¹, YANG Xin-zhou², Wu Chao-qun², LI Yu-zhao², YUAN Jing-quan^{1*}
(1. Guangxi University of Chinese Medicine, Nanning 530200, China; 2. School of Pharmaceutical Sciences, South-Central University for Nationalities, Wuhan 430074, China)

In this paper, a new and three known cadinane-type sesquiterpenes were obtained from the petroleum ether of 95% ethanol extract of *Eupatorium adenophorum* Spreng by using a variety of separation and purification methods. The relative and absolute configurations were determined by NOESY and ECD, and compounds 1–4 were tested for anti-tumor activity.



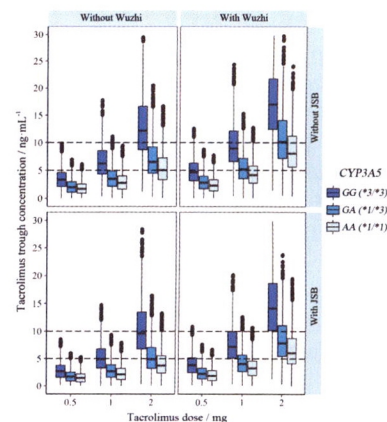
2960

Population pharmacokinetics of tacrolimus in idiopathic membranous nephropathy patients

WEI Chuan-mei¹, GOU Chun-xia¹, CAO Kang-na^{2,3}, LIU Xiao-qin^{2,4}, GAO Fei¹,
LIN Ting-ting^{1*}, JIAO Zheng^{2*}

(1. Department of Pharmacy, Binzhou Medical University Hospital, Binzhou 256603, China; 2. Shanghai Chest Hospital, Shanghai Jiao Tong University, Shanghai 200030, China; 3. Clinical Pharmacokinetics Laboratory, China Pharmaceutical University, Nanjing 211198, China; 4. Huashan Hospital, Fudan University, Shanghai 200040, China)

This study was found that Jinshuibao capsule could accelerate the clearance of tacrolimus in Chinese patients with idiopathic membranous nephropathy.

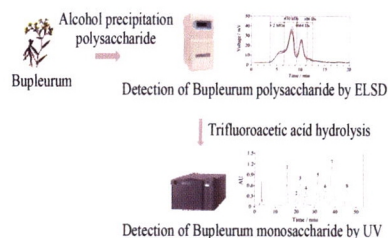


2968

Identification of different *Bupleurum* varieties based on carbohydrate-specific chromatograms

SHI Li-xia^{1,2}, LI Ke^{1,2,3*}, QIN Xue-mei^{1,2}, LI Zhen-yu^{1,2}, CUI Lian-jie^{1,2},
LI Shu-ying^{1,2}, CAO Yu-xin^{1,2}, WANG Sheng-jin⁴

(1. Modern Research Center for Traditional Chinese Medicine of Shanxi University, Taiyuan 030006, China; 2. Key Laboratory of Chemical Biology and Molecular Engineering of Ministry of Education of Shanxi University, Taiyuan 030006, China; 3. Institute of Process Engineering, Chinese Academy of Sciences, Beijing 100190, China; 4. Agricultural Comprehensive Development Center of Lingchuan County of Jincheng City of Shanxi Province, Jincheng 048300, China)



This article finds out the differences in the sugar profiles of different *Bupleurum* species, by establishing a characteristic map of polysaccharide and monosaccharide of *Bupleurum*, taking sugar compounds as the main evaluation index, which provides a basis for the identification of different varieties of *Bupleurum*.

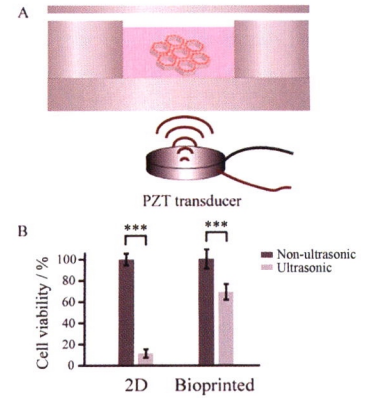
2976

Bioprinted HepG2 cells for studying sonodynamic anticancer activity of chlorine e6

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Bioprinted HepG2 tumor tissues were used for studying the sonodynamic anticancer activity of chlorine e6.



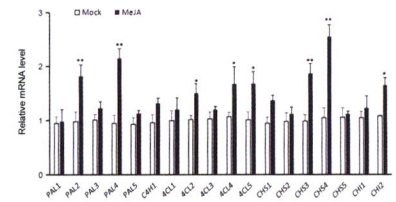
2982

The mechanism of methyl jasmonate-induced accumulation of hydroxysafflor yellow A in safflower of different colors

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Methyl jasmonate promoted the accumulation of hydroxysafflor yellow A (HSYA) by up-regulating the expression of genes related to HSYA biosynthesis.



New Drug Forum

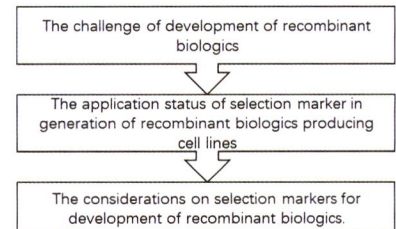
2989

Considerations and application status of selection marker for generation of recombinant biologics producing mammalian cell lines

CUI Ying, BAI Yu, CHENG Su-yuan*

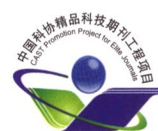
(Center for Drug Evaluation, National Medical Products Administration, Beijing 100022, China)

We illustrate with CHO cell as an example, introduce the application status of selection marker and methods to enhance the selection stringency, and propose considerations on cell substrate stability and selection marker safety.



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