

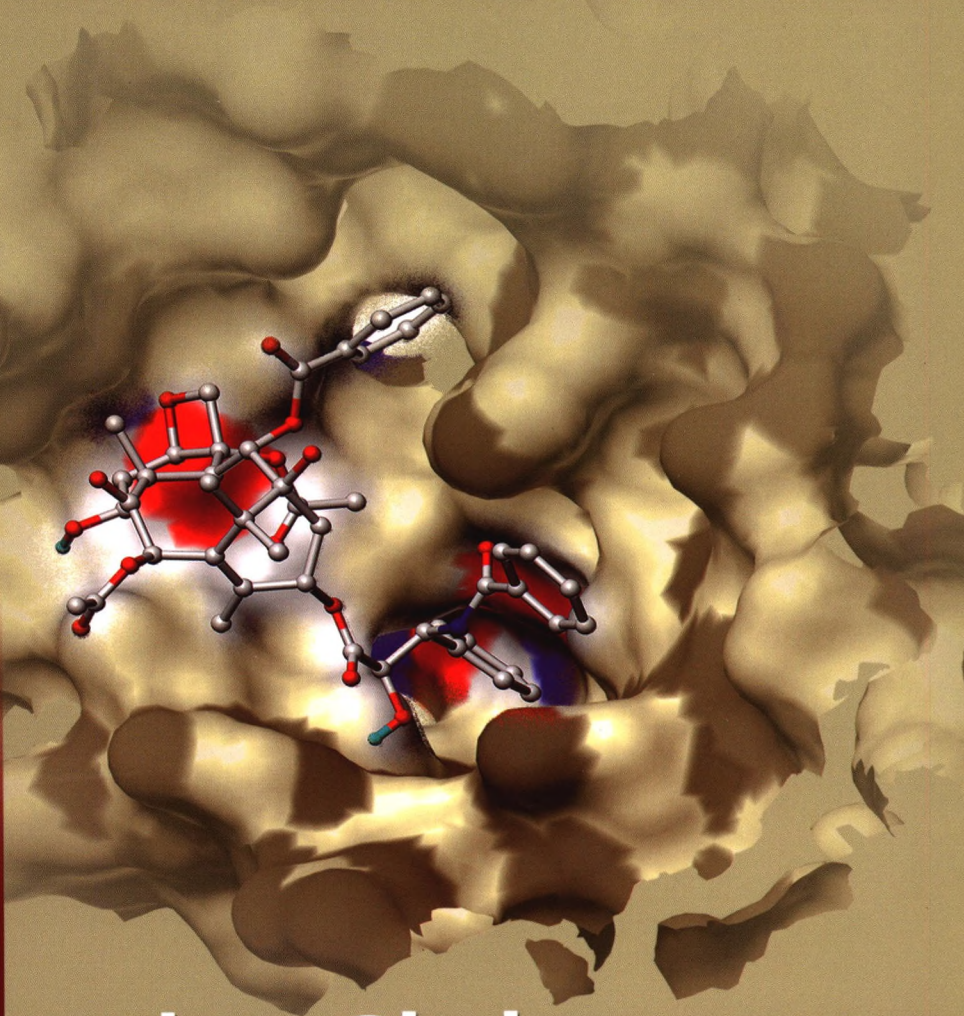


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综述

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新型冠状病毒(2019-nCoV)的靶
向药物研究策略
万方数据

新药发现与研究实例简析

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由同情用药发展为III期临床研究的瑞
德西韦



中国药学会
中国医学科学院药物研究所

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综述

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新型冠状病毒 (2019-nCoV) 的靶向药物研究策略

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本文介绍了瑞德西韦和克力芝在抗新型冠状病毒的应用, 并依据数据分析探讨了抗该病毒的可能药物靶点和新药开发策略, 以及药物联用选择和面临的挑战。

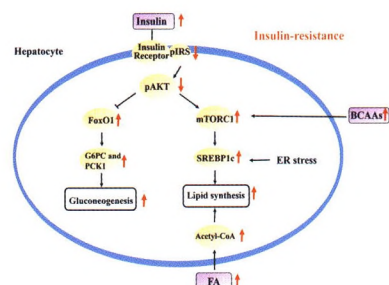
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胰岛素抵抗状态下肝脏脂质合成增加的研究进展

王凯, 柳星峰, 李平平*

(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, 北京协和医学院糖尿病研究中心, 北京 100050)

胰岛素抵抗促进脂质合成。



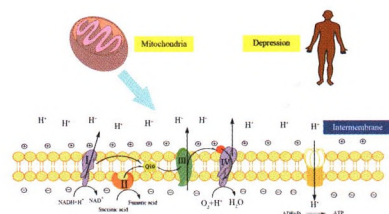
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线粒体能量代谢障碍在抑郁症发病机制中的关键作用

刘少博¹, 令狐婷¹, 高耀¹, 田俊生^{1,2*}, 秦雪梅^{1,2*}

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线粒体能量代谢障碍在抑郁症发病机制中的研究现状及其关键作用。



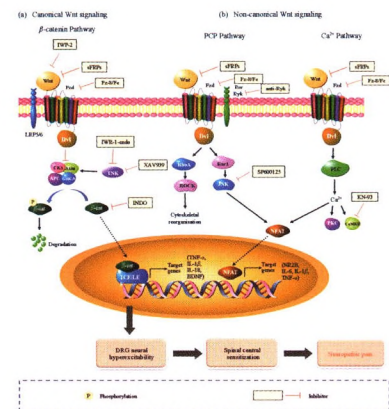
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Wnt 信号通路在神经病理性疼痛中的作用及机制研究进展

文蕊蕊^{1,2}, 张志玲², 陈乃宏^{1,2*}

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本文对 Wnt 信号通路在不同神经病理性疼痛中的作用进行了综述, 其作用机制包括促进促炎细胞因子的产生、脑源性神经营养因子的释放, 以及激活突触蛋白及钙离子依赖的信号通路增强神经元兴奋性, 进而增强突触可塑性, 导致中枢敏化而引起神经痛。



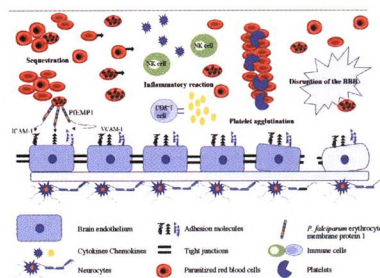
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脑型疟辅助治疗研究进展

姜晓慧^{1,2}, 郑钟原^{1,2}, 刘慧^{1,2}, 杨婷^{1,2}, 瞿水清^{1,2}, 李玉洁^{1,2*}, 陈利娜^{1,2*}

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基于改善临床结果和/或降低死亡率, 以及预防长期神经认知缺陷为目的的脑型疟辅助治疗研究进展。



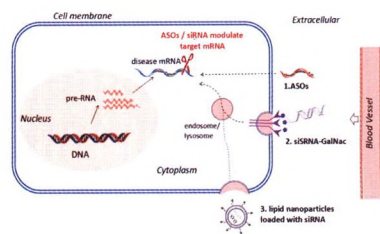
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寡核苷酸药物的临床药理学研究进展

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(北京协和医院临床药理研究中心, 创新药物临床 PKPD 研究北京市重点实验室, 北京 100032)

寡核苷酸药物 (ASOs; siRNA) 在 RNA 水平上调控疾病基因转录翻译过程, 正在填补空白治疗领域; 极性大、带电荷、借助化学修饰和递药系统的特性赋予其独特的临床药理学行为。



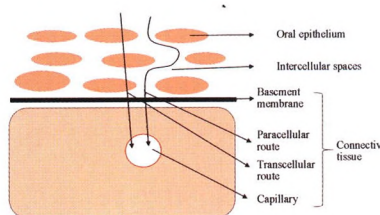
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口腔黏膜给药系统的药物动力学研究进展

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本文详细介绍了口腔黏膜给药系统药物动力学性质的影响因素及其研究方法。



研究论文

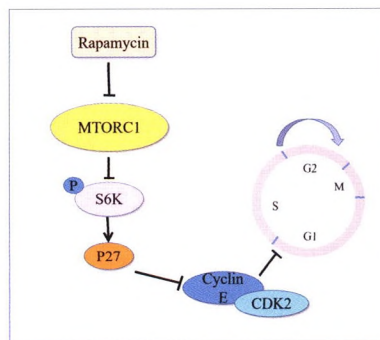
235

雷帕霉素通过 mTORC1/p70S6K 通路调控大鼠系膜细胞增殖及细胞周期的机制研究

常思佳¹, 王艳红¹, 郭海秀¹, 周晓霜², 冀贺¹, 田继华^{1*}

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雷帕霉素可以通过 mTORC1/p70S6K 通路调控 p27mRNA 转录, 增加其蛋白表达, 从而降低 cyclin-CDK 的活性, 阻断细胞周期由 G0/G1 期进入 S 期, 抑制系膜细胞的增殖。



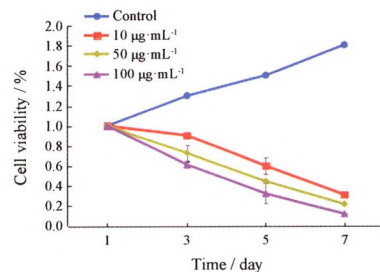
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中药黄芪蛋白抗肝癌细胞 HepG2 作用机制

王禹璇¹, 刘海英², 姚红¹, 张华凤^{2*}, 薛慧清^{1*}

(1. 山西中医药大学, 基于炎症反应的重大疾病创新药物山西省重点实验室, 山西 晋中 030619; 2. 中国科学技术大学生命科学学院, 安徽 合肥 230031)

从黄芪根部提取黄芪蛋白 (HQP), 结合细胞实验和转录组学, 发现其可能通过 p53 信号通路使肝癌细胞发生程序性坏死。



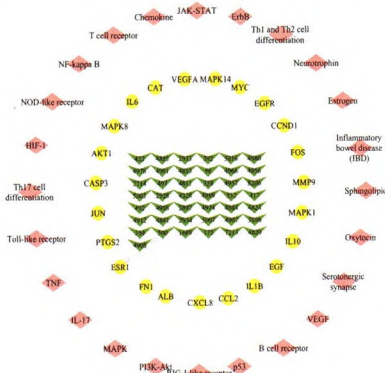
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基于网络药理学的黄芩汤治疗溃疡性结肠炎的潜在机制研究

宋红新¹, 马旭冉¹, 王敦方¹, 王彦礼¹, 邹迪新¹, 苗金雪^{1,2}, 王汉³, 杨伟鹏^{1*}

(1. 中国中医科学院中药研究所, 北京 100700; 2. 黑龙江中医药大学, 黑龙江 哈尔滨 150040; 3. 长春中医药大学, 吉林 长春 130117)

通过网络药理学和生物信息学的方法, 建立“药效成分-疾病靶标-生物学通路”之间的关系, 探究黄芩汤治疗溃疡性结肠炎的作用机制。



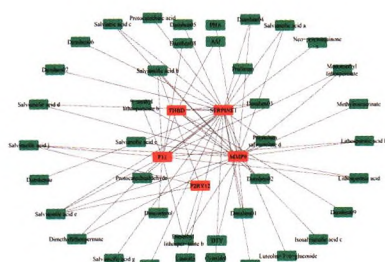
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基于系统的化合物-靶点相互作用预测模型的消栓通络方抗脑卒中网络药理学研究

郑一夫^{1,2#}, 孔令雷^{1#}, 贾皓¹, 张宝月¹, 王喆¹, 许律捷¹, 刘艾林^{1*}, 杜冠华^{1*}

(1. 中国医学科学院、北京协和医学院药物研究所, 北京 100050; 2. 武汉大学药学院, 湖北 武汉 430072)

本研究利用机器学习算法, 借助网络药理学研究方法和技术, 对消栓通络方抗脑卒中的药效物质基础和网络作用机制进行了较为深入的研究, 构建了化学成分-靶点-通路网络, 发现了许多潜在的多靶点活性成分。



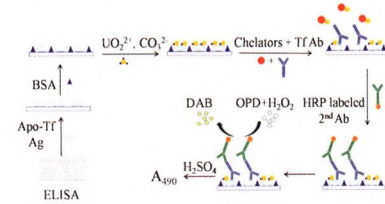
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基于竞争 ELISA 法的铀促排整合剂体外筛选模型的建立

王梦梦, 张旭霞, 尹俊, 任湘祎, 李欣悦, 陈红红*

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建立检测整合剂与去铁转铁蛋白 (apo-Tf) 竞争结合铀 [U(VI)] 能力的竞争 ELISA 法, 用于 U(VI) 促排整合剂的体外筛选。



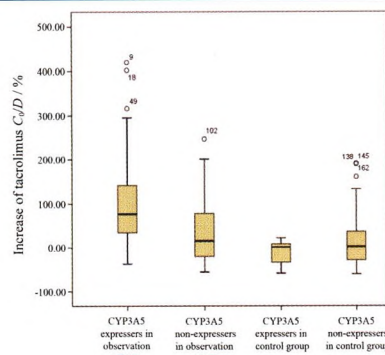
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五酯胶囊相较地尔硫草对他克莫司血药浓度的影响与 CYP3A5 基因多态性的关系

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(1. 福建医科大学附属福州市第一医院药学部, 福建 福州 350009; 2. 中国人民解放军联勤保障部队第九〇〇医院药学科, 福建 福州 350025)

本研究发现, 在 CYP3A5 表达型患者中五酯胶囊对他克莫司血药浓度的提升作用优于地尔硫草。



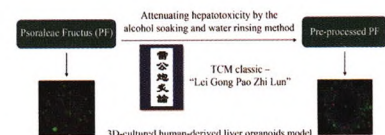
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补骨脂潜在肝毒性的修制减毒方法研究: 酒浸水漂法

宋迪^{1,2}, 陈帅帅^{1,2}, 李朋彦², 张乐^{1,2}, 柏兆方², 肖小河², 秦旭华^{1*}, 王伽伯^{2*}

(1. 成都中医药大学药学院, 四川 成都 611137; 2. 中国人民解放军总医院第五医学中心全军中医药研究所, 北京 100039)

《雷公炮炙论》记载的酒浸水漂法可有效降低补骨脂的潜在肝细胞毒性。



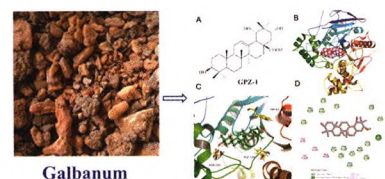
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维药格蓬脂中三萜类化学成分研究及其抗胆碱酯酶活性评价

王书云^{1,2,3}, 孙富周³, 孙义凡⁴, 黄健^{2,3}, 王金辉^{2,3*}, 杨宝峰²

(1. 河南大学药学院, 河南 开封 475004; 2. 哈尔滨医科大学药化教研室, 省部共建生物医药工程重点实验室, 黑龙江 哈尔滨 150081; 3. 沈阳药科大学中药学院, 辽宁 沈阳 110016; 4. 深圳弘汇生物医药有限公司, 广东 深圳 518118)

从维药格蓬脂的甲醇超声提取物中共分离得到 8 个三萜类化合物, 其中化合物 1 为新化合物, 且化合物 1 表现出较强的丁酰胆碱酯酶抑制活性。



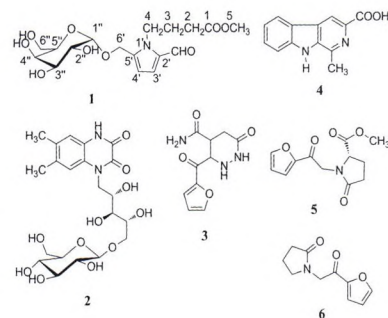
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九蒸九晒熟地黄中的一个新生物碱

吕锦锦^{1,2}, 张靖柯^{1,2}, 张贝贝^{1,2}, 刘娟娟^{1,2}, 李孟^{1,2}, 石静亚^{1,2}, 朱登辉^{1,2}, 杨航¹, 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. 呼吸疾病中医药防治省部共建协同创新中心, 河南 郑州 450046)

采用多种色谱技术从九蒸九晒熟地黄 70% 丙酮提取物中分离得到 6 个生物碱, 化合物地 黄新碱 A (4-[[[5-*O*- α -D-galactopyranosyloxy)methyl]-1-*H*-pyrrole-2-carbaldehyde-1-yl] butyric acid methyl ester) 为新化合物, 化合物 1~3 对 LPS 诱导的 NRK-52e 细胞损伤具有保护作用。



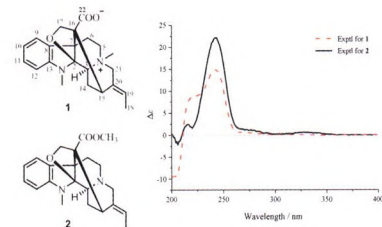
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鸡骨常山中的一个新生物碱

位翠杰^{1,2}, 谢静^{1,2}, 李紫薇^{1,2}, 张建^{1,2}, 张晓琦^{1,2*}, 叶文才^{1,2}

(1. 暨南大学药学院中药及天然药物研究所, 广东 广州 510632; 2. 暨南大学广东省现代工程技术研究中心, 广东 广州 510632)

从鸡骨常山枝叶中分离并鉴定了 4 个生物碱类化合物, 化合物 1 *N*₄-甲基脱氧阿桔明 (*N*₄-methylpseudoakumigine) 为新的单萜吡啶生物碱类化合物, 并通过 ECD 谱确定了其绝对构型。



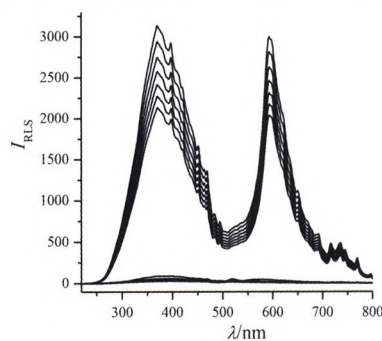
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虎红探针测定盐酸美西律—基于双波长共振光散射技术

江虹*, 庞向东, 胡影

(长江师范学院化学化工学院, 武陵山片区绿色发展协同创新中心, 重庆 408100)

虎红探针双波长共振光散射技术测定药物中的盐酸美西律。



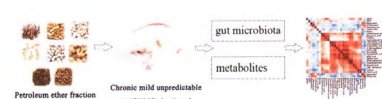
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基于多维组学探究逍遥散低极性部位对 CUMS 模型大鼠的抗抑郁作用

冯彦^{1,2}, 孟美黛^{1,2}, 冯建有^{1,2}, 王鹏^{1,2}, 闫艳¹, 秦雪梅¹, 高晓霞^{1*}

(1. 山西大学中医药现代研究中心, 山西 太原 030006; 2. 山西大学化学化工学院, 山西 太原 030006)

逍遥散低极性部位能有效改善 CUMS 大鼠肠道菌群的组成和代谢产物的紊乱, 为抑郁症状的治疗提供新的见解。



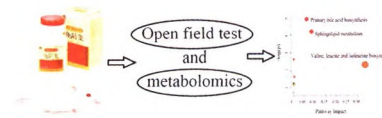
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龟龄集对 *D*-半乳糖致衰老大鼠血清代谢组学的影响

杨小玲¹, 赵思俊^{1,3}, 田俊生¹, 张斌², 王佩义², 高晓霞^{1*}, 秦雪梅^{1*}

(1. 山西大学中医药现代研究中心, 山西 太原 030006; 2. 山西广誉远国药有限公司, 山西 太谷 030800; 3. 山西省食品药品检验所, 山西 太原 030006)

龟龄集对于 *D*-半乳糖致衰老大鼠的旷场行为有改善作用, 并对大鼠血清运用 LC-MS 代谢组学技术分析以解释龟龄集延缓衰老的主要代谢通路。



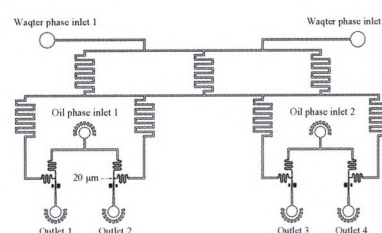
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浓度梯度微流控芯片平台的构建及其应用于抗白念珠菌药物快速筛选研究

蔡颖^{1,2#}, 陈阳^{2,3#}, 洪战英^{1,2*}, 柴逸峰²

(1. 福建中医药大学药学院, 福建 福州 350122; 2. 海军军医大学药学院, 上海 200433; 3. 西宁联防联控中心药品仪器监督检验站, 甘肃 兰州 730050)

浓度梯度微流控芯片平台的建立与表征及其抗白念珠菌药物筛选应用。



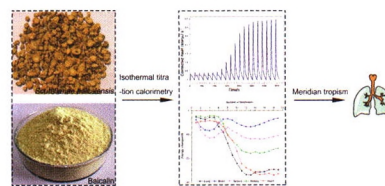
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基于分子热力学特征探讨中药黄芩的归经特性

陈红珊, 杨玉琴, 张昊, 王鹏龙*, 雷海民*

(北京中医药大学中药学院, 北京市中药基础与新药研究重点实验室, 北京 102488)

利用量热技术测定黄芩、黄芩苷与不同组织结合的能量变化, 二者均与肺能量变化大、作用力强, 从热力学角度探讨归经。



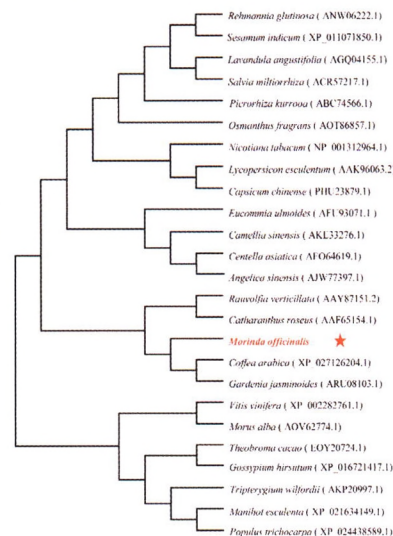
335

巴戟天 *MoDXR* 基因及其启动子的克隆与分析

谢德金¹, 叶友杰¹, 杨德明¹, 张娅欣¹, 何天友², 陈礼光¹, 郑郁善^{1,2*}

(1. 福建农林大学林学院, 福建 福州 350002; 2. 福建农林大学园林学院, 福建 福州 350002)

本研究对巴戟天 MEP 途径中 *DXR* 基因的开放阅读框及其启动子序列进行了克隆, 并进行相关的生物信息学和启动子区顺式作用元件等分析。巴戟天 *MoDXR* 蛋白与其他茜草科植物的 *DXR* 蛋白亲缘关系最近, 并且 5'端启动子序列包含了与光响应、胁迫响应和激素响应有关的多种调控元件及 MYB 和 MYC 转录因子相结合的 DNA 结合位点。



Phylogenetic tree analysis and chloroplast transit peptide prediction of 25 different plants on *DXR* amino acid sequence

新药发现与研究实例简析

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由同情用药发展为 III 期临床研究的瑞德西韦

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)

Reviews

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Strategies for the development of drugs targeting novel coronavirus 2019-nCoV

LIU Qian-yong^{1*}, WANG Xiao-liang^{2*}

(1. Tayu Huaxia Biotech Medical Group Co., Ltd., Beijing 100006, China;

2. Institute of Materia Medica, Chinese Academy of Medical Sciences, Beijing 100050, China)

This article discusses the application of remdesivir and Kaletra in novel coronavirus pneumonia, and proposes approaches, targets and their associated clinical compounds according to big data analysis. The combinational options as well as challenges in the development of the targeted drugs were also discussed.

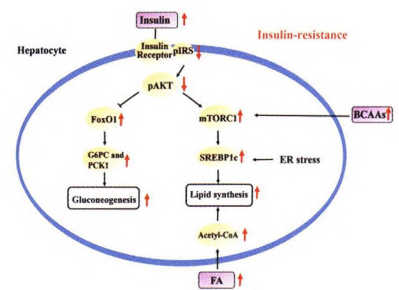
189

Advances in molecular mechanisms for enhanced hepatic lipogenesis in insulin resistance

WANG Kai, LIU Xing-feng, LI Ping-ping^{*}

(Diabetes Research Center of Chinese Academy of Medical Sciences, 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)

Insulin resistance promotes lipogenesis.



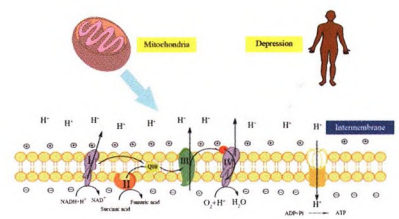
195

The key role of mitochondrial energy metabolism disorder in the pathogenesis of depression

LIU Shao-bo¹, LING-HU Ting¹, GAO Yao¹, TIAN Jun-sheng^{1,2*}, QIN Xue-mei^{1,2*}

(1. Modern Research Center of Traditional Chinese Medicine, Shanxi University, Taiyuan 030006, China; 2. Key Laboratory of Research and Utilization of Functional Substances in Traditional Chinese Medicine, Shanxi University, Taiyuan 030006, China)

Research progress and key role of mitochondrial energy metabolism disorder in the pathogenesis of depression.



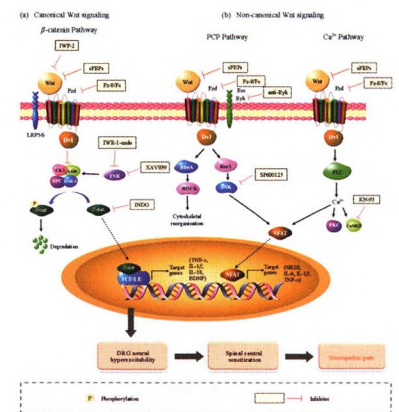
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Research progress on the role and mechanism of Wnt signaling pathway in neuropathic pain

WEN Bi-ru^{1,2}, ZHANG Zhi-ling², CHEN Nai-hong^{1,2*}

(1. Hunan Engineering Technology Center of Standardization and Function of Chinese Herbal Decoction Pieces, College of Pharmacy, Hunan University of Chinese Medicine, Changsha 410208, China; 2. Neuroscience Center, Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China)

In this paper, the role of Wnt signaling pathways in different mental derangement pain is reviewed, the mechanisms include promoting of the production of proinflammatory cytokines, the release of brain derived neurotrophic factor, and synaptic protein and calcium ions depend on the signaling pathways activated enhance the excitability of neurons, and thus enhance the synaptic plasticity, lead to the central sensitization and neuropathic pain.

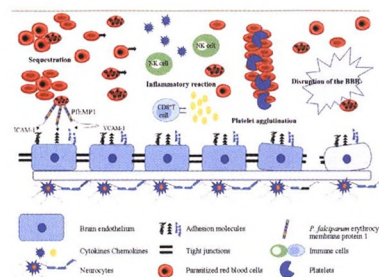


208

Current advances in research on adjuvant therapy for cerebral malariaJIANG Xiao-hui^{1,2}, ZHENG Zhong-yuan^{1,2}, LIU Hui^{1,2}, YANG Ting^{1,2},
QU Shui-qing^{1,2}, LI Yu-jie^{1,2*}, CHEN Li-na^{1,2*}

(1. Artemisinin Research Center, China Academy of Chinese Medical Sciences, Beijing 100700, China; 2. Institute of Chinese Materia Medica, China Academy of Chinese Medical Sciences, Beijing 100700, China)

Current advance in research on adjuvant therapy for cerebral malaria based on improving clinical outcomes and/or reducing mortality, as well as preventing long-term neurocognitive deficits.



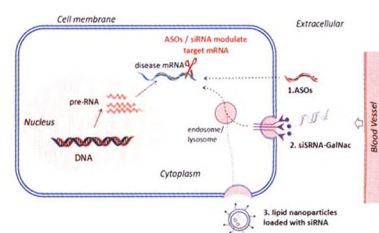
218

Progress in clinical pharmacology of oligonucleotides

TANG Xian-ge, GUAN Xiao-duo, CHEN Rui*, HU Pei*

(Clinical Pharmacology Research Center, Peking Union Medical College Hospital, Beijing Key Laboratory of Clinical PK and PD Investigation for Innovative Drugs, Beijing 100032, China)

Oligonucleotides can modulate disease gene transcription at the RNA level and are expected to overcome the rare and refractory human diseases. Highly polar, charged oligonucleotides need to be improved by means of chemical modification and drug delivery systems, which result in unique clinical pharmacological properties.

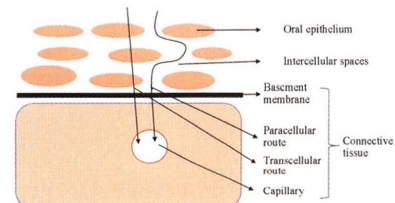


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Progress in pharmacokinetics of oral transmucosal drug delivery systemsWANG Bing¹, LIU Hong-rui¹, CHEN Fang¹, QUAN Ying-jun²,
XIANG Xiao-qiang^{3*}

(1. National Pharmaceutical Engineering Research Center, China State Institute of Pharmaceutical Industry, Shanghai 201203, China; 2. Fudan University Pudong Medical Center, Shanghai 201300, China; 3. School of Pharmacy, Fudan University, Shanghai 201203, China)

This article summarized the factors affecting the pharmacokinetic properties of oral transmucosal drug delivery systems and the methods to evaluate the pharmacokinetic properties of the delivery systems.

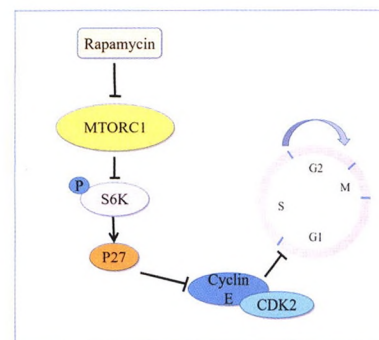
**Original Articles**

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Mechanisms of rapamycin on regulating rat mesangial cell proliferation and cell cycle through mTORC1/p70S6K pathwaysCHANG Si-jia¹, WANG Yan-hong¹, GUO Hai-xiu¹, ZHOU Xiao-shuang²,
JI He¹, TIAN Ji-hua^{1*}

(1. Shanxi Medical University, Taiyuan 030001, China; 2. Department of Nephrology, the Affiliated People's Hospital of Shanxi Medical University, Taiyuan 030012, China)

Rapamycin can regulate the transcription of p27 mRNA through the mTORC1/p70S6K pathway, increase its protein expression, thereby reducing the activity of cyclin-CDK, and blocking the cell cycle from G0/G1 phase to S phase to inhibit the mesangial cells proliferation.



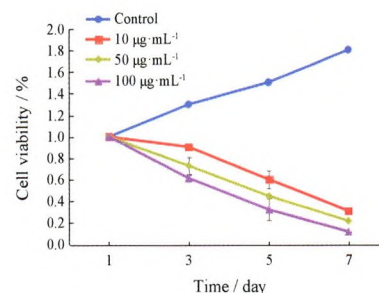
241

The mechanism of anti-hepatocellular carcinoma cell line HepG2 by Chinese medicine Astragalus protein

WANG Yu-xuan¹, LIU Hai-ying², YAO Hong¹, ZHANG Hua-feng^{2*}, XUE Hui-qing^{1*}

(1. Shanxi Key Laboratory of Innovative Drug for the Treatment of Serious Diseases Basing on the Chronic Inflammation, Shanxi University of Traditional Chinese Medicine, Jinzhong 030619, China; 2. Academy of Life Science, University of Science and Technology of China, Hefei 230031, China)

Huang Qi protein (HQP) was extracted from Astragalus root. Combined with cell experiments and transcriptome, it was found that it may cause programmed necrosis of hepatoma cells through p53 signal pathway.



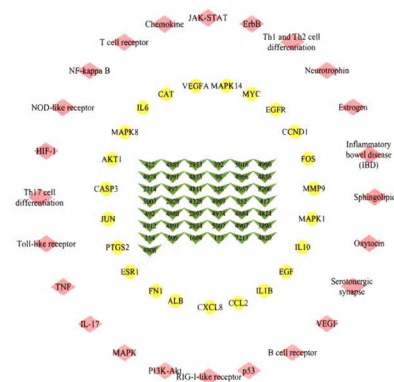
247

Potential mechanism of Huangqin decoction for the treatment of ulcerative colitis based on network pharmacology

SONG Hong-xin¹, MA Xu-ran¹, WANG Dun-fang¹, WANG Yan-li¹, ZOU Di-xin¹, MIAO Jin-xue^{1,2}, WANG Han³, YANG Wei-peng^{1*}

(1. Institute of Chinese Materia Medica, China Academy of Chinese Medical Sciences, Beijing 100700, China; 2. Heilongjiang University of Traditional Chinese Medicine, Harbin 150040, China; 3. Changchun University of Traditional Chinese Medicine, Changchun 130117, China)

Through the methods of network pharmacology and bioinformatics, the relationship between "medicinal ingredient-disease target-biological pathway" was established, and the mechanism of Huangqin (HQT) decoction in treating ulcerative colitis was explored.



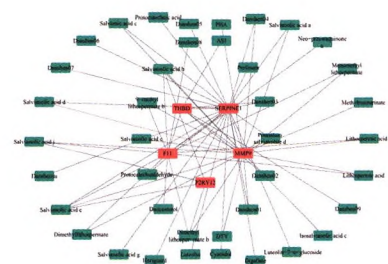
256

Network pharmacology study on anti-stroke of Xiaoshuan Tongluo formula based on systematic compound-target interaction prediction models

ZHENG Yi-fu^{1,2#}, KONG Ling-lei^{1#}, JIA Hao¹, ZHANG Bao-yue¹, WANG Zhe¹, XU Lü-jie¹, LIU Ai-liu^{1*}, DU Guan-hua^{1*}

(1. Institute of Materia Medica, Chinese Academy of Medical Sciences and Peking Union Medical College, Beijing 100050, China; 2. College of Pharmacy, Wuhan University, Wuhan 430072, China)

In this study, the pharmacodynamic substance basis and network mechanism of Xiaoshuan Tongluo formula for anti-stroke were studied by using machine learning algorithm and network pharmacology research methods and techniques. Many potential multi-target active ingredients were found, and chemical constituent-target-pathway network was constructed.



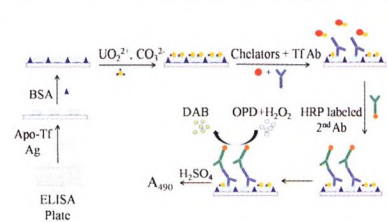
265

Establishment of an *in vitro* screening model for uranium decoration chelators based on the competitive ELISA method

WANG Meng-meng, ZHANG Xu-xia, YIN Jun, REN Xiang-yi, LI Xin-yue, CHEN Hong-hong

(Institute of Radiation Medicine, Shanghai Medical College, Fudan University, Shanghai 200032, China)

The competitive ELISA method for determining the capability of chelators competing with uranium [U(VI)] binding to apo-transferrin was established and has the potential to be used for *in vitro* screening of U(VI) decoration agents.



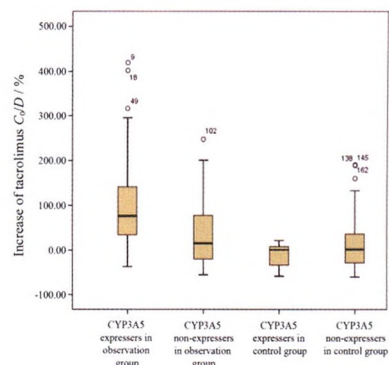
272

Effect of wuzhi capsules on the blood concentration of tacrolimus relative to diltiazem and CYP3A5 gene polymorphisms

CAI Yi-peng^{1,2}, CHEN Quan-jin², XIE Pei-hua², SONG Hong-tao^{2*}

(1. Department of Pharmacy, Affiliated Fuzhou First Hospital of Fujian Medical University, Fuzhou 350009, China; 2. Department of Pharmacy, 900 Hospital of the Joint Logistics Team, Fuzhou 350025, China)

Our study found that in CYP3A5 expressers, compared with diltiazem, wuzhi capsules have a stronger effect on enhancing the blood concentration of tacrolimus.

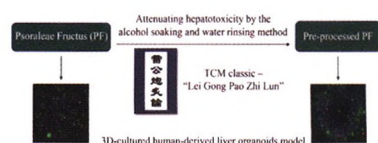


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Attenuating the potential hepatotoxicity of Psoraleae Fructus by pre-processing: the alcohol soaking and water rinsing method

SONG Di^{1,2}, CHEN Shuai-shuai^{1,2}, LI Peng-yan², ZHANG Le^{1,2}, BAI Zhao-fang², XIAO Xiao-he², QIN Xu-hua^{1*}, WANG Jia-bo^{2*}

(1. School of Pharmacy, Chengdu University of Traditional Chinese Medicine, Chengdu 611137, China; 2. China Military Institute of Chinese Medicine, the Fifth Medical Centre of Chinese PLA General Hospital, Beijing 100039, China)



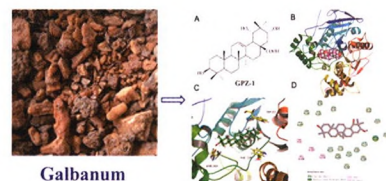
The alcohol soaking and water rinsing method recorded in the traditional Chinese medicine (TCM) classics - "Lei Gong Pao Zhi Lun" can effectively reduce the potential hepatotoxicity of Psoraleae Fructus.

283

Triterpenoids from Galbanum of uygur medicine and their anticholinesterase activities

WANG Shu-yun^{1,2,3}, SUN Fu-zhou³, SUN Yi-fan⁴, HUANG Jian^{2,3}, WANG Jin-hui^{2,3*}, YANG Bao-feng²

(1. School of Pharmacy, Henan University, Kaifeng 475004, China; 2. Department of Medicinal Chemistry and Natural Medicine Chemistry (State-Province Key Laboratories of Biomedicine-Pharmaceutics of China), Harbin Medical University, Harbin 150081, China; 3. School of Traditional Chinese Materia Medica, Shenyang Pharmaceutical University, Shenyang 110016, China; 4. Shenzhen Honghui Biopharmaceutical Co., Ltd., Shenzhen 518118, China)



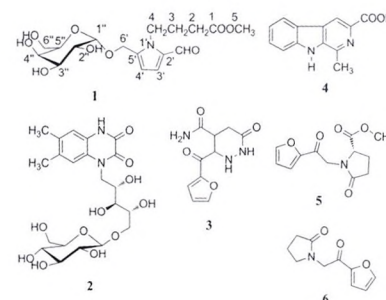
One new triterpene compound (1), together with seven known analogues (2-8), was isolated from the methanol extract of Galbanum. Compound 1 showed strong inhibitory activity against butyrylcholinesterase.

289

A new alkaloid from Rehmanniae Radix Preparata

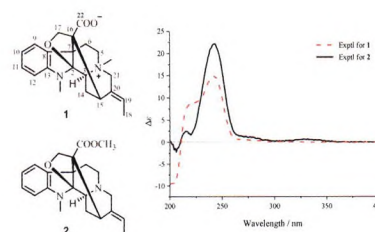
LÜ Jin-jin^{1,2}, ZHANG Jing-ke^{1,2}, ZHANG Bei-bei^{1,2}, LIU Juan-juan^{1,2}, LI Meng^{1,2}, SHI Jing-ya^{1,2}, ZHU Deng-hui^{1,2}, YANG Hang¹, ZHENG Xiao-ke^{1,2}, FENG Wei-sheng^{1,2*}

(1. School of Pharmacy, Henan University of Chinese Medicine, Zhengzhou 450046, China; 2. Co-construction Collaborative Innovation Center for Chinese Medicine and Respiratory Disease Diagnosis by Henan and Education Ministry of P. R. China, Zhengzhou 450046, China)



Six alkaloids were isolated from Rehmanniae Radix Preparata prepared according to the traditional method of "jiu zheng jiu shai". Rehmanniae alkaloid A (4-[[[(5-O- α -D-galactopyranosyloxy)methyl]-1H-pyrrole-2-carbaldehyde-1-yl]butyric acidmethyl ester) (1) is a new alkaloid. Compounds 1-3 exhibit protective effects against LPS-induced damage to NRK-52e cells.

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A new alkaloid from *Alstonia yunnanensis*WEI Cui-jie^{1,2}, XIE Jing^{1,2}, LI Zi-wei^{1,2}, ZHANG Jian^{1,2}, ZHANG Xiao-qi^{1,2*}, YE Wen-cai^{1,2}*(1. Institute of Traditional Chinese Medicine and Natural Products, College of Pharmacy, Jinan University, Guangzhou 510632, China; 2. Guangdong Engineering Research Center for Modernization of TCM, Jinan University, Guangzhou 510632, China)*

A new monoterpene indole alkaloid, *N*₄-methylpseudoakammigine (**1**), together with three known ones were isolated from the twigs and leaves of *Alstonia yunnanensis*. The new structure including absolute configuration was elucidated using spectroscopic methods, and electronic circular dichroism (ECD) experiments.

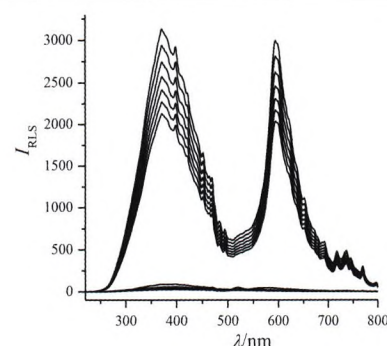
298

Determination of mexiletine hydrochloride by rose Bengal probe using dual-wavelength resonance light scattering technology

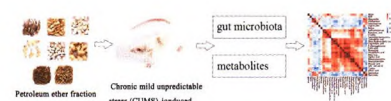
JIANG Hong*, PANG Xiang-dong, HU Ying

(College of Chemistry and Chemical Engineering, Collaborative Innovation Center for Green Development in Wuling Mountain Areas, Yangtze Normal University, Chongqing 408100, China)

Determination of mexiletine hydrochloride in drugs by dual-wavelength resonance light scattering technique with rose Bengal as probe.

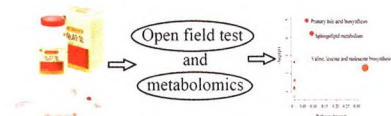


305

Antidepressant-like effects of the petroleum ether fraction of Xiaoyaosan in the CUMS rat model of depressionFENG Yan^{1,2}, MENG Mei-dai^{1,2}, FENG Jian-you^{1,2}, WANG Peng^{1,2}, YAN Yan¹, QIN Xue-mei¹, GAO Xiao-xia^{1*}*(1. Modern Research Center for Traditional Chinese Medicine, Shanxi University, Taiyuan 030006, China; 2. College of Chemistry and Chemical Engineering, Shanxi University, Taiyuan 030006, China)*

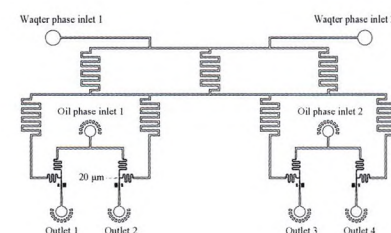
Petroleum ether fraction of Xiaoyaosan (XY-A) treatment could modulate the composition of gut microbiota and the disorder of metabolites in the CUMS-induced rats, providing new insight into the treatment for depressive symptoms.

315

Effects of Guilingji on serum metabolites in *D*-galactose-induced aging in ratsYANG Xiao-ling¹, ZHAO Si-jun^{1,3}, TIAN Jun-sheng¹, ZHANG Bin², WANG Pei-yi², GAO Xiao-xia^{1*}, QIN Xue-mei^{1*}*(1. Modern Research Center for Traditional Chinese Medicine, Shanxi University, Taiyuan 030006, China; 2. Shanxi Guang Yuyuan Traditional Chinese Medicine Co., Ltd., Taiyuan 030800, China; 3. Shanxi Food and Drug Inspection Institute, Taiyuan 030006, China)*

Guilingji has an improved effect on the open field behavior of aging rats induced by *D*-gal. Rat serum was analyzed by LC-MS metabolomics to explain the major metabolic pathways that Guilingji can delay aging.

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Construction of a concentration gradient microfluidic chip platform for the rapid screening of drugs active against *Candida albicans*CAI Ying^{1,2#}, CHEN Yang^{2,3#}, HONG Zhan-ying^{1,2*}, CHAI Yi-feng²*(1. School of Pharmacy, Fujian University of Traditional Chinese Medicine, Fuzhou 350122, China; 2. School of Pharmacy, Naval Medical University, Shanghai 200433, China; 3. Drug Instrument Supervision and Inspection Station, Xining Joint Logistics Support Center, Lanzhou 730050, China)*

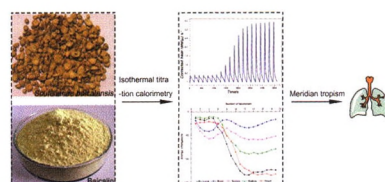
The establishment, characterization of a concentration gradient microfluidic chip platform and application in drug screening against *Candida albicans*.

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Meridian tropism of *Scutellaria baicalensis* based on molecular thermodynamic characteristics

CHEN Hong-shan, YANG Yu-qin, ZHANG Hao, WANG Peng-long*, LEI Hai-min*

(Key Laboratory of Traditional Chinese Medicine and New Drug Research, School of Chinese Materia Medica, Beijing University of Chinese Medicine, Beijing 102488, China)



Application of isothermal titration calorimetry were used to determine the energy changes during the interaction of *Scutellaria baicalensis* and baicalin with different tissues. The researchers found that both of them vary greatly with lung energy and exert a strong force, which represented the meridian tropism from the perspective of molecular thermodynamics.

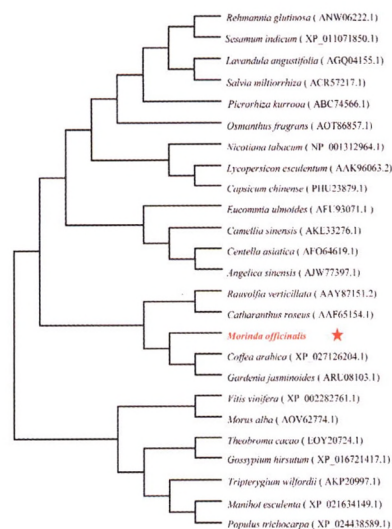
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Cloning and analysis of the DXR gene and its promoter in *Morinda officinalis*

XIE De-jin¹, YE You-jie¹, YANG De-ming¹, ZHANG Ya-xin¹, HE Tian-you², CHEN Li-guang¹, ZHENG Yu-shan^{1,2*}

(1. College of Forestry, Fujian Agriculture and Forestry University, Fuzhou, 350002, China; 2. College of Landscape, Fujian Agriculture and Forestry University, Fuzhou, 350002, China)

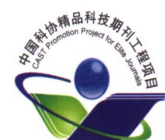
This research cloned *DXR* gene and its promoter sequence from *Morinda officinalis*, and performed the bioinformatic and *cis*-acting elements analysis, and so on. The result of the phylogenetic tree revealed that *MoDXR* had closest relationship with other Rubiaceae family plants. Plantcare analysis indicated that the promoter region sequence of *MoDXR* covered multiple light, stress and hormones responsive *cis*-regulatory elements. In addition, it had several MYB and MYC transcription factor binding sites.



Phylogenetic tree analysis and chloroplast transit peptide prediction of 25 different plants on DXR amino acid sequence

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