



基于有效组分检测与理化表征相结合的蜈蚣有效部位制备工艺研究

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作者中文名	作者英文名	单位中文名	单位英文名	E-Mail
马家骅	MA Jiahua	西南科技大学,四川 绵阳 621010 成都中医药大学,四川 成都 611137	Southwest University of Science and Technology, Mianyang 621010, China Chengdu University of Traditional Chinese Medicine, Chengdu 611130, China	
谭承佳	TAN Chengjia	绵阳师范学院,四川 绵阳 621000	Mianyang Normal University, Mianyang 621000, China	
衣文娇	YI Wenjiao	成都中医药大学,四川 成都 611137	Chengdu University of Traditional Chinese Medicine, Chengdu 611130, China	
杨明	YANG Ming	成都中医药大学,四川 成都 611137	Chengdu University of Traditional Chinese Medicine, Chengdu 611130, China	yangming16@126.com

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中文摘要:目的:优选蜈蚣有效部位的制备工艺,探索通过提取液理化表征来进行过程控制的可行性。方法:采用单因素试验法,主要以有效组分多肽与氨基酸的含量为指标,结合流变学、表面化学、电学等方面的表征,系统考察影响蜈蚣有效部位制备相关的提取、浓缩、分离、纯化、干燥各环节的各因素。结果:确定了蜈蚣有效部位的制备工艺条件,即取蜈蚣药材粉碎为粗粉,用3倍量的85%乙醇浸提48 h,加85%乙醇10倍量,以4 mL·min⁻¹·kg⁻¹的速度渗漉,收集漉液,滤过,滤液在50-55℃浓缩至1:1,冷藏除脂后,通过DA201-C大孔树脂柱,先后用1 BV水与4 BV 70%乙醇为洗脱剂进行洗脱,分别收集洗脱液。水洗脱液浓缩,干燥,加85%乙醇洗涤2次,取洗液,与70%乙醇洗脱液合并,浓缩,干燥,即得。同时,本实验对有效部位制备各环节的液相体系进行表征,发现与有效物质多肽相关的表面张力基本不变,而与无效物质盐密切相关的电导率降低了约90%,最大限度地保留了药物治病的有效信息,去除了无效信息。结论:筛选的蜈蚣有效部位制备工艺条件稳定可靠,通过提取液理化表征来进行过程控制切实可行。

中文关键词:蜈蚣 有效部位 有效组分 理化表征 制备工艺

Preparation technology of effective fraction of *Catharsius molossus* based on determination of effective composition and characterization of physico-chemical property

Abstract:Objective: To optimize the preparation technology of effective fraction of *Catharsius molossus*, and investigate the feasibility of process control by the physical and chemical characterization of extracts. Method: Used single-factor test method, choosed the main effective components of peptides and amino acids as indexes, combined with rheology, chemistry, electricity, and other characterization, the study researched the prepared technology of effective fraction of *C.molossus* including extraction, concentration, separation, purification, drying and so on. Result: The optimal preparation technology of effective fraction of *C.molossus* was that soaked an amount of crude drugs with three times of 85% ethanol for 48 h, added 10 times of 85% ethanol, percolated in 4 mL·min⁻¹·kg⁻¹, collected percolation liquid, concentrated to 1:1 at 50-55℃, removed fat by frozen, adopted DA201-C macroporous resin, used 1 BV of water and 4 BV of 70% ethanol as eluting agent, collected eluant respectively. The water part was concentrated and dried, then washed twice with 85% ethanol, collected washing liquid and mixed with 70% ethanol eluant. The product was obtained by concentrating and dring. At the same time, the liquid-phase system of each link was characterized in preparation of effective fraction of *C. molossus*, which showed that the surface tension related to polypeptide was essentially unchanged, and the conductivity related to salt decreased by about 90% with ineffective substances closely related to salt. The results showed that the preparation technology maximally retained the effective information, and removed the invalid information. Conclusion: The preparation technology of effective fraction of *C. molossus* is stable and reliable, and the process control in physico-chemical characterization of extracts is feasible.

keywords: *Catharsius molossus* effective fraction effective composition characterization of physicochemical properties preparation technology doi: 10.4268/cjmm20100907

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