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灯盏细辛组分对脑神经细胞损伤保护作用的谱效关系研究

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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
黄勇	HUANG Yong	贵阳医学院 药学院,贵州 贵阳 550004	School of Pharmacy, Guiyang Medical College, Guiyang 550004, China	
齐晓岚	QI Xiaolan	贵阳医学院 分子生物学重点实验室,贵州 贵阳 550004	Key Laboratory of Molecular Biology, Gaiyang Medical College, Guiyang 550004, China	
官志忠	GUAN Zhizhong	贵阳医学院 分子生物学重点实验室,贵州 贵阳 550004	Key Laboratory of Molecular Biology, Gaiyang Medical College, Guiyang 550004, China	
王永林	WANG Yonglin	贵阳医学院 药学院,贵州 贵阳 550004	School of Pharmacy, Guiyang Medical College, Guiyang 550004, China	gywyl@gml.edu.cn
王爱民	WANG Aimin	贵阳医学院 药学院,贵州 贵阳 550004	School of Pharmacy, Guiyang Medical College, Guiyang 550004, China	
李翠兵	LI Cuibing	贵阳医学院 药学院,贵州 贵阳 550004	School of Pharmacy, Guiyang Medical College, Guiyang 550004, China	
迟明艳	CHI Mingyan	贵阳医学院 药学院,贵州 贵阳 550004	School of Pharmacy, Guiyang Medical College, Guiyang 550004, China	

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中文摘要:目的: 研究灯盏细辛中各组分对神经母细胞瘤(SH-SY5Y)细胞的保护作用,探讨其在阿尔茨海默病(AD)治疗中的作用物质基础。 方法 :用柱色谱技术将灯盏细辛提取物划分为3个极性组分,并采用正交法将其配伍,以细胞MTT 还原率、脂质过氧化产物(丙二醛,MDA)、神经型尼古丁受体α_7蛋白表达等为活性指标,研究灯盏细辛各配伍组分对β-淀粉样肽(Aβ)损伤神经细胞的保护作用;将各配伍组分活性信息与其相应的UPLC指纹图谱化学信息进行方差分析和相关性分析研究,推测活性物质基础。 结果 :谱效相关性研究发现,灯盏细辛在指纹图谱中的B,C组分段具有明显活性;其中4,7~12号色谱峰与活性呈现正相关。 结论 :通过谱效研究,推测了灯盏细辛体外对抗Aβ神经细胞毒性的活性组分以及化学成分。为灯盏细辛深层次研究开发奠定一定的实验基础。

中文关键词:灯盏细辛 谱效关系 β-淀粉样肽 阿尔茨海默氏病

Study on fingerprints correlated with pharmacodynamic of constituentsin Herba Erigerontis against neurotoxicity induced by beta-amyloid peptide

Abstract: Objective : To investigate the neuroprotective effects of the constituents in Herba Erigerontis on neuroblastoma SH -SY5Y cells, and find out its possible material foundation in treating Alzheimer's disease(AD). Method : Different combinations of the three constituents in Herba Erigerontis were prepared according to the orthogonality experiment, and the indexes(MTT reduction assay, lipid peroxidation and expressions of nAChR α_7 protein)were observed upon the SH-SY5Y cells followed by treatment of these combinations and β-amyloid peptide(Aβ). The pharmacology data thus obtained and peak data in UPLC fingerprint were analyzed through ANOVA and correlationship by SPSS to give the information of active possible material foundation. Result : Constituents B and C showed clear activity and peaks of 4, 7-12 did positive correlationship according to the correlation of fingerprints and pharmacology. Conclusion : This study makes a valid approach for deducing the active constituents even the exact compounds against neurotoxicity induced by Aβ by correlation of fingerprints and pharmacology.

keywords: Herba Erigerontis constituents fingerprints and pharmacology β-amyloid peptide Alzheimer's disease

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