

# Separation of *Trans*- and *Cis*-Crocins in *Saffron* Using HPLC and Study on Their Pharmacological Activities

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**Abstract** Crocins are the major components in saffron. They are the esters of crocetin (8, 8'-diapo $\Psi$ ,  $\Psi$ '-carotenedioic acid) and it's very difficult to separate them. HPLC was used to separate trans- and cis-crocins in this paper. The conditions of HPLC were Nova-Pak C<sub>18</sub> (3.9 mm $\times$  150 mm, 4 $\mu$ ) column; Methanol-H<sub>2</sub>O (1% HAc) as mobile phase in which the concentration of methanol was changed at different rates in three parts; Detection wavelength is 440 nm, 308 nm, 250 nm. Trans- and cis-crocins were separated at shorter time. Crocin 1 and crocetin were found to significantly increase the blood flow in the retina and choroid and to facilitate retinal function recovery by electroretinography.

**Key words** Crocins; HPLC; Electroretinography; Separate; Pharmacological activity

**【摘要】** 雷公藤总甙 (T<sub>1</sub>) 中雷藤氯内酯醇的高效液相色谱分析 张胜强, 余启明, 宋燕玲等. 中国药师, 1998, 1(1): 31~ 32

建立了雷公藤总甙 (T<sub>1</sub>) 中雷藤氯内酯醇的高效液相色谱分析方法. 采用  $\mu$ -Bondapak C<sub>18</sub> 柱和 46% 甲醇-水流动相, 紫外检测波长 219 nm 考察了雷藤氯内酯醇的稳定性, 雷藤氯内酯醇在 0.5~ 10.0  $\mu$ g/ml 范围内线性良好, 回收率在 98%~ 101% 之间.

**【摘要】** 脉络宁注射液对不同动物模型缺血性脑损伤的保护作用 杨平, 王晓雷, 戴德哉等. 中国临床药理学杂志, 1998, 7(6): 290~ 293

目的: 观察对以泊路沙姆为助溶剂的脉络宁新注射液 (P-脉络宁) 对缺血性脑损伤的保护作用. 方法: 测定 P-脉络宁注射液对不同缺血模型及血液流变学的作用. 结果: 脉络宁注射液能明显降低家兔的全血比粘度; 血浆比粘度及红细胞比容; 并能明显缩小小鼠大脑中动脉阻断 (MCAO)

后引起的脑梗死范围, 降低毛细血管通透性, 脑含水量和脑指数. 结论: P-脉络宁可以通过改善上述各指标, 有效地保护缺血引起的脑损伤; 而助溶剂则无此脑保护作用.

**【摘要】** 家蚕细胞基因工程人  $\alpha_1$  干扰素在离体培养的 HL<sub>60</sub>, KB 细胞上与其他化疗药物之间的相互作用 王秋娟, 李放, 王等. 中国药师, 1998, 2(1): 2

探讨了离体细胞中家蚕细胞基因工程人  $\alpha_1$  干扰素 (rhIFN- $\alpha_1$ ) 与某些肿瘤药物的相互作用. 这些药物包括环磷酰胺 8.3  $\mu$ g/ml, 盐酸阿霉素 0.008  $\mu$ g/ml 和 5-氟尿嘧啶 6.2  $\mu$ g/ml. 观察它们与 rhIFN- $\alpha_1$  在 HL<sub>60</sub> 以及 KB 细胞中的作用. 研究发现 rhIFN- $\alpha_1$  以及 3 个化学药物单独使用能明显降低细胞的增殖数目及活细胞数 ( $P < 0.01$ ), 但是, 它们相互合用不表现为协同作用, 而表现为亚相加或相加作用, 甚至在 HL<sub>60</sub> 细胞中, 150 IU/ml 的 rhIFN- $\alpha_1$  与 5-氟尿嘧啶 6.0  $\mu$ g/ml 合用呈拮抗作用.