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PICO·TAG法测定王锦蛇中不同部位游离氨基酸含量

PICO·TAG Determination of Amino Acid Content of Different Parts in *Elaphe Carinat*

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作者

单位

E-mail

[任学聪, 盛振华, 程超, 黄真*](#)

[浙江中医药大学, 杭州 310053](#)

huangzhen@zjtcn.net

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中文摘要:

目的 建立PITC(异硫氰酸苯酯)柱前衍生化反相高效液相色谱法测定王锦蛇(菜花蛇)中蛇肉、蛇心、蛇肺、蛇肠中的17种游离氨基酸含量, 进一步开发和利用王锦蛇的食用与药用价值。方法 Waters PICO·TAG™游离氨基酸分析柱(3.9 mm×150 mm, 5 μm), 以醋酸铵缓冲液为流动相A, 乙腈-水(60:40)为流动相B梯度洗脱, 254 nm紫外条件下检测分析。结果 20 min内17种氨基酸均得到较好的分离; 17种氨基酸在各自的浓度范围内线性关系良好, r 在0.997 6~0.999 9之间, 平均加样回收率为98.3%~107.5%。结论 该方法操作简便, 准确、可靠, 重复性好, 适用于王锦蛇中蛇肉、蛇心、蛇肺、蛇肠的氨基酸含量测定, 为王锦蛇资源的进一步开发利用和保护提供了实验依据。

英文摘要:

OBJECTIVE To establish a reversed-phase high-performance liquid chromatographic method derivated by PITC (phenylisothiocyanate) pre-column for the determination of 17 amino acids content of fresh, heart, lung and intestines in *Elaphe carinat* (Cauliflower), and to develop the edible and medical value of *Elaphe carinat* further. METHODS Using Waters PICO·TAG™ column(3.9 mm×150 mm, 5 μm), gradient elution with sodium acetate buffer as mobile phase A, acetonitrile-water (60:40) as mobile phase B, detection wavelength of 254 nm. RESULTS All of 17 amino acids were well separated within 20 min; 17 amino acids had a good linear relationship in their respective concentration ranges (0.997 6< r <0.999 9). The average recoveries were in 98.3%-107.5%. CONCLUSION This method is simple, accurate and reliable with a good reproducibility and can be used to determine amino acids content of snake fresh, heart, lung and intestines in *Elaphe carinat*, which provides experimental evidence of the further development, usage and protection of the *Elaphe carinat* resource.

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