AC

HPLC/DAD DETERMINATION OF ALOIN BESIDES FLAVONOIDS IN COMPLEX PLANT PHARMACEUTICALS

Maja Shishovska[1], Zorica Arsova-Sarafinovska[1,2], Dragica Doneva[1], Agim Ameti[1], Zaklina Poposka-Svirkova[1], Katerina Starkovska[1]

e-mail: mayashishovska@yahoo.com

[1]Institute for Public Health of the Republic of Macedonia, Medicines Quality Control Department, "50 Divizija" No 6, 1000 Skopje, Republic of Macedonia
[2]Goce Delcev University – Stip, Faculty of Medical Sciences, Republic of Macedonia

A simple HPLC/DAD method for determination of aloin in complex matrices is proposed, using aloin A as a marker compound. The chromatographic separation was achieved on C18 HPLC column, mobile phase composed of acetonitrile and water (pH 2.6) in gradient mode, flow-rate 1.5 ml/min, with simultaneous UV detection at 295 nm for aloin, and 255 nm and 375 nm for flavonoids. For the method the obtained validation results are in satisfactory ranges. This method is successfully applied for analysis of aloin in *Aloe barbadensis* Mill. plant dried exudate and pharmaceuticals which besides this exudate contain mixture of different extracts from: *Achillea Millefolium* L., herba; *Calendula officinalis* L., flos; *Cornux mas* L., plant cortex; *Cynodon dactylon* L., rhizome; *Hypericum perforatum* L., herba*; Inula helenium* L., radix and *Viscum album* L., herba. It is shown that other present compounds such as flavonoids (quercetin, hyperozid and rutin) do not interfere in determination and they may be analyzed simultaneously (Table 1). This method is proposed to be used in control of pharmaceuticals.

Table 1. Chromatographic and spectroscopic data obtained by using optimized gradient HPLC/DAD method

compound	t_r (min)	k'	R_s	S	A_{max} (nm)
rutin	8.6	6.41		1.04	200; **255**; 355
hyperozid	9.3	7.02	2.76	1.06	200; **255**; 355
aloin A	15.0	11.93	22.20	0.94	200; 268; **295**; 355
quercetin	19.4	15.64	15.24	0.91	200; 255; **375**

t_r – retention time; k'- retention factor; R_s – resolution; S – peak`s symmetry;
A_{max} – wavelength at the maximum absorption

Key words: aloin; flavonoids; HPLC/DAD; pharmaceuticals