

ABSTRACT

In this thesis, the determination of AGT, sooner used as anticancer drug, especially for the treatment of breast cancer in postmenopausal women or for the treatment of prostate cancer, by high performance liquid chromatography with UV spectrophotometric detection (HPLC-UV) and electrochemical detection (HPLC-ED) on carbon paste electrodes (CPEs) was studied. CPEs were prepared from glassy carbon microspheres and different pasting liquids – routinely used mineral oil (CPE-MO) and less commonly used tricresylphosphate (CPE-TCP) and silicone oil (CPE-SO).

The concentration dependences of AGT were measured by HPLC-UV with detection wavelength 242 nm, by HPLC-ED with a working potential of +1,3 V for CPE-MO and + 1,1 V for CPE-TCP in mobile phase containing phosphate buffer (pH 4) and methanol 50:50 (v/v). The following limits of detection were achieved – $3,6 \cdot 10^{-7}$ mol.l⁻¹ for UV spectrophotometric detection, $2,5 \cdot 10^{-7}$ mol.l⁻¹ for electrochemical detection with CPE-MO and $9,7 \cdot 10^{-7}$ mol.l⁻¹ for electrochemical detection with CPE-TCP.

AGT was also determined in model samples of urine. With HPLC-UV it was not possible to detect AGT, because of the interferences of other compounds. With HPLC-ED on CPE-MO the limit of detection $5,2 \cdot 10^{-7}$ mol.l⁻¹ AGT was achieved.

KEY WORDS

Aminoglutethimide

HPLC with UV spectrophotometric and electrochemical detection

Carbon paste electrodes