

Abstract:

Charles University in Prague
Faculty of Pharmacy in Hradec Králové
Department of Biophysics and Physical Chemistry

Candidate: Monika Belešová

Consultant: Ing. Vladimír Kubíček, CSc.

Title of Thesis: Determination of Albendazole and Its Metabolites for Study of
Anthelmintic Resistance

An HPLC method suited for analysis of albendazole and two metabolites, i. e. albendazole sulfoxide and albendazole sulfone, in biological samples is described in this rigorous thesis.

The aim of this work was to develop a new isocratic method for separation and determination of these substances using a core shell Kinetex PFP column equipped with pentafluorophenyl stationary phase. Based on preliminary experiments a mobile phase of acetonitrile+phosphate buffer (pH = 7.0) was used. Oxibendazole was exploited in the role of internal standard. The analytes and the internal standard were detected by means of a fluorescence detector. In the frame of the work the composition of the mobile phase was optimised and validation of the developed method was carried out.

The validation results show the method to be applicable for the analyses of biological samples during intestinal parasite resistance against albendazole. The method was successfully applied to analyse real biological samples.