ABSTRACT

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Infection with internal parasites is one of the most common diseases in sheep worldwide and causes significant economic losses. The nematode (*Haemonchus contortus*) is among to the particularly problematic representatives. Anthelmintics are used to treat helmintoses and they are divided into the several classes. The class of macrocyclic lactones includes ivermectin (IVE), which is especially popular for wide range of efficacy and low toxicity. However, the study of IVE pharmacokinetics is difficult, because it depends on many factors. Considerable attention is directed to the elimination of IVE, because its residuals in dung can adversely affect the environment and thus promote the emergence of resistance. The aim of this study was study of the elimination of IVE in sheep, especially the study of excretion profile. IVE (dose 0.2 mg/kg of body weight) was subcutaneously administered to sheep, followed by sampling of faeces at specified intervals. Ultra-high performance liquid chromatography (UHPLC) with tandem mass spectrometry (MS/MS) was used for analyze of the samples. The results show that the elimination of IVE is governed by first-order kinetics. The curve trend of dependence of the IVE concentration and time is similar for all sheep with characterized interindividual differences. The interindividual differences may occur on the based physiological differences of the individual sheep.