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ABSTRACTS

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G-6

INVESTIGATION OF PARAFFIN-EMBEDDED MELANOMA TISSUES BY MULTIPHOTON MICROSCOPY

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The traditional diagnosis of skin cancer is by biopsy and histopathological examination. Among newly developed imaging techniques, two photon microscopy is one of the promising method for diagnosing pathological tissue changes at oncological diseases. Herein, we demonstrate the feasibility of using multiphoton microscopy combined with FLIM to detect morphological and metabolic state changes tissues with melanoma, embedded in paraffin blocks. The method is based on imaging the amplitude ratio α_1/α_2 , attributed to the ratio of the free and protein bound forms of NADH, as a metabolic marker. The relationships between the fluorescence and the generation of the second harmonic of the melanoma tissues and quantitative parameters of fluorescence lifetimes (τ_m , τ_1 , τ_2 , and α_1/α_2) were obtained for different morphological images.

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G-7

METHODS FOR DETERMINING THE RESIDUAL ANTIBIOTICS IN FOOD

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Now one of the pressing issues for the sanitary service is the problem of determining antibiotics in livestock products. Because their use in animal agriculture has more and more diverse purposes. First of all for the treatment of animals, as the cheapest and effective way. However, in addition, they are used to stimulate growth, preserve and package food (meat, fish, milk, honey, etc.). Because of what they can enter the body with food, which harms not only pathogenic bacteria, but also the beneficial microflora of the body. Also, their constant presence in the human body can lead to antibiotic resistance and are the strongest allergen. Among other things, their inclusion can provoke the development of various diseases.

It is now important to find a sensitive and accurate method for the determination of antibiotics [1, 2] in livestock products, which would exclude lengthy sample preparation. Therefore, the development of a fast method for the determination of antibiotics in food is fast and urgent. The spectral method based on the phenomenon of fluorescence can be a solution to this problem.

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AOAC Official Methods of Analysis. Chlortetracycline, Oxytetracycline, and Tetracycline in Edible Animal Tissues. Liquid Chromatographic Method, Drugs and Feed Additives in Animal Tissues, 2000, Ch. 2, 20.

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