

Ft-Raman quantitative determination of ambroxol in tablets.

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Streszczenie

A procedure for quantitative determination of ambroxol in commercial tablets by Partial Least Squares (PLS) treatment of FT-Raman spectroscopic data is proposed. In a number of published reports, the quantification of pharmaceuticals, usually containing 30–90% of the analysed ingredient, with the application of the Raman technique is described. In the product under consideration, the active component constitutes less than 15% of the tablet mass. A calibration model was built using unnormalized spectra and the results obtained were compared with values found from a second approach in which an internal standard was added to each sample. To appraise the quality of the PLS models, the relative standard error of prediction (RSEP) was calculated. For ambroxol, it amounts to 2.3–3.0% for a testing sample set quantification. The mean content of ambroxol in tablets determined from the model based on unnormalised spectra equals 29.6 ± 0.4 mg. It was found to be 29.6 ± 0.6 mg and 30.8 ± 0.3 mg from models built using spectra normalised by the intensity at maximum and integral intensity of the internal standard band, respectively. These values correlate well with the declared value of 30 mg of ambroxol in the studied medicine.

Słowa kluczowe

FT-Raman spectroscopy, Ambroxol, Pharmaceuticals,
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