

**Quantitative analysis of very small quantity of organs taken from patients and experimental animals
– Standard-free method for organ samples –**

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Abstract

A standard-free method for small lymph node and spleen samples taken from rats, and lymph node, esophagus, colon etc. taken from real patients has been developed in order to take measure to meet increasing demands for quantitative analyses of small amount of organs. It becomes possible to quantitatively analyze organ samples of less than 1 mg collected from small experimental animals and also from patients by biopsy, and accuracy and sensitivity of the method were examined by comparing the results with those obtained by a powdered-internal-standard method and a chemical-ashing method. It is found that the method is quite effective for estimating therapeutic effect of CDDP (Cisplatin) since it allows us to quantitatively evaluate uptake of CDDP into organs by analyzing small quantity of samples taken from actual patients by biopsy. It is expected that the method will become a powerful tool for studies not only in fundamental and clinical medicines but also on practical diagnosis and treatment.

Keywords : PIXE, Organ, Standard-free, Quantitative analysis, Small quantity, Clinical samples, Experimental animals, Anticancer agent