# DETERMINATION OF ALPHA RADIONUCLIDES IN FISH

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*Abstract:*

In atmospheric water, external water and undercurrent the occurrence of radionuclides is usual. It is an important factor of quality of the environment. Plants ingest radionuclides from water and with they everyone. And it arises radioactivity infest food – chain.

Radiotocity of this radionuclides is very deer sometimes. The sensitive radiochemical procedures for their determination are necessarily important.

The poster presents the combined procedure used at our laboratory for determination of *alpha* radionuclides in biological samples.

The specific activity of alpha radionuclides was determined in biological samples. The biological samples were chosen kinds of fish, concretely macrels, herrings and haddocks.

Analytical procedures were involved total dissolution of the samples, then was followed extraction of uranium and thorium with Aliquat – 336 from aqueous ($HNO_3$ or HCl) media and they were separated from Pu, Am and Sr. Final purification of the dissolved samples employed an extraction chromatographic column. The column was packed with a chromatographic resin U/TEVA Spec.™. (The organic extractant is diamyl amyl phosphine oxide, which is coated onto the surface of an inert polymeric support – Amberline XAD-7). Uranium and thorium were separated by Eichrom U/TEVA resin prior to measurement. Thin sources for uranium and thorium determination were prepared by micro–co–precipitation with $NdF_3$ and their activities were determined by alpha spectrometry, using low – background counter ORTEC (600-$mm^2$ silicon-surface barrier detector). The alpha spectrums of uranium and thorium fractions in the observed kinds of fish were showed ~~deer~~ high radionuclide purity.