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The Analysis of Th in the Korean Total Diet Sample by RNAA

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Abstract

In order to estimate the degree of intake of ^{232}Th through daily diet, a korean total diet sample was collected and made after the investigation of the amount of consumption of daily diet which is dependent on the ages of 20's to 50's. For Th analysis, the RNAA method was applied and NIST SRM 1575, Pine Needle was used as quality control materials. The result of the SRM analysis was compared with a certified value. The relative error was 5%. The determination of the Th in the korean total diet sample was carried out under the same analytical condition and procedure with SRM . As a result of the korean total diet sample, the concentration of Th was in 3.4 ± 0.2 ppb and the amount of daily intake of Th by the diet is found to be 0.67 μg per day. Radioactivity by Th intake was estimated to be about 2.7 mBq per person per day and annual dose equivalent was revealed as 0.73 μSv per person.