

## Retinol, cholecalciferol and alpha-tocopherol contents of Bulgarian Black Sea fish species

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**Abstract** The aim of the present study is to determine and to compare the content of retinol, cholecalciferol and alpha-tocopherol in edible tissue of two Black sea fishes - Garfish (*Belone belone*) and Turbot (*Psetta maxima*). All-trans-retinol (vitamin A), cholecalciferol (vitamin D<sub>3</sub>) and alpha-tocopherol (vitamin E) were analyzed simultaneously using HPLC/UV/FL system (Thermo Scientific Spectra SYSTEM) equipped with RP analytical column. The mobile phase was composed of 97:3 = MeOH:H<sub>2</sub>O. Retinol and cholecalciferol were monitored by UV detection at  $\lambda_{\max} = 325$  nm and  $\lambda_{\max} = 265$  nm, respectively. Alpha-tocopherol was detected by fluorescence at  $\lambda_{\text{ex}}=288$  nm and  $\lambda_{\text{em}}=332$  nm. The sample preparation procedure includes alkaline saponification, followed by liquid-liquid extraction. Quantities of all-trans-retinol and cholecalciferol were higher in garfish tissues while alpha-tocopherol content in turbot showed seven times higher values.

*Keywords: retinol, cholecalciferol, alpha-tocopherol, turbot, garfish, HPLC*

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