

Determination and Characterization of Chloroguaiacol Conjugates in Fish Bile by HPLC

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ABSTRACT

In this study a small-scale technique for direct analysis of metabolic conjugates of 4,5,6-trichloro- (CG-3) and tetrachloroguaiacols (CG-4) in fish bile by RP-HPLC is presented. Only one metabolite, glucuronic acid conjugate, was demonstrated in two Lake Baikal fishes (Leuciscus leuciscus baikalensis and Cottus kessleri) exposed to CG-3 or CG-4 at 6°C for 1–2 days. In Leuciscus the ratio between free CG-4 in the ambient water and conjugated CG-4 in the bile averaged 264 000. Intraperitoneal injections of tetrachloroveratrol (CV-4) into Thymallus arcticus baikalensis did not reveal any traces of free CV-4 or CG-4 glucuronide in the bile in 2 days at 5°C. We therefore suggest that CV-4 was not demethylated and subsequently conjugated with glucuronic acid in the liver of this fish species.