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## Pharmacokinetic studies of pterostilbene and 3'-hydroxypterostilbene in rats

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Our previous results demonstrated that 3'-hydroxypterostilbene (OHPT) has higher anti-tumor activity than pterostilbene (Pt) *in vivo*. In the present study, we would like to elucidate whether the stronger biological activity of OHPT is due to its higher bioavailability than Pt. We performed pharmacokinetic studies in male Sprague Dawley rats. The animals received a single oral administration of OHPT and Pt at the dose of 50 mg/kg through oral gavage. After oral administration, a series of plasma samples were collected at 0, 5, 10, 15, 30, 60, 120, 180, 240, 480 and 600 min for further HPLC analysis. The results showed that two unidentified metabolites without parent compound OHPT were observed following ingestion of OHPT; while only one metabolite (glucuronide/sulfate conjugates) and parent compound Pt were detected in rat plasma after ingestion of Pt. These results indicated that the biotransformation of OHPT might not be glucuronide or sulfate conjugation, whereas, the major biotransformation pathway of Pt might be glucuronide or sulfate conjugation. The findings of this study provide message that despite structural similarity, Pt and its hydroxyl analog OHPT exert completely differential effects on oral bioavailability and metabolism. Further experiment is needed to identify the unknown metabolites of OHPT.

### Biography

Yu-Kuo Chen has received his PhD from the Institute of Food Science and Technology of National Taiwan University in 2009. After completing around two years as a Post-doctoral Associate in the Department of Chemical Biology at Rutgers University, he joined the faculty at National Pingtung University of Science and Technology as an Assistant Professor in the Department of Food Science. His research focuses on the biological evaluation of functional foods, purification and identification of active components in functional foods and analysis of metabolism and bioavailability of those compounds.

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