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• 計畫中文名稱	大鼠肝臟微粒體細胞色素 P450s 對 2,6-雙異丙烷酚代謝產物之研究---HPLC 分析法		
• 計畫英文名稱	Study of Metabolites of 2,6-Diisopropylphenol by RAT Hepatic Cytochrome P450S---An HPLC Analysis		
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• 中文關鍵字	肝臟; 2,6-雙異丙烷酚; 細胞色素 p450 酵素; 免疫調控; 代謝產物; 高效液相層析法		
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• 中文摘要	查無中文摘要		
• 英文摘要	2,6-Diisopropylphenol, an intravenous anesthetic agent, has been worldwide used in a variety of surgical procedures for induction and maintenance of anesthesia. The beneficial characteristics of 2,6-diisopropylphenol include rapid onset, short duration of action and rapid elimination. One of the major advantages of this anesthetic over other injectable anesthetic agents is that relatively rapid and complete recovery occurs in most patients after repeated dosing or with relatively prolonged intravenous infusions. This property is attributable to rapid and extensive biotransformation of 2,6-diisopropylphenol to multiple metabolites, primarily by the liver. In humans, 2,6-diisopropylphenol is eliminated from the body only after being metabolized. The major metabolite in human is the glucuronic acid conjugate of 2,6-diisopropylphenol. To date, UDP-glucuronosyltransferase 1A9 is the major enzyme that has been shown to mediate this reaction. Another metabolic pathway of 2,6-diisopropylphenol is via the ring hydroxylation, which accounts for approximately 40% of the dose. This oxidative metabolism of 2,6-diisopropylphenol is catalyzed by cytochrome P450 (CYP) to form 4-hydroxy-2,6-diisopropylphenol, which is then glucuronidated at either the C1- or C4-hydroxyl positions or is sulphated at the C4-hydroxyl position by a sulfotransferase. The ring oxidation of 2,6-diisopropylphenol by CYPs is species-dependent. Guitton et al. (1998) reported that multiple human CYP isoforms might be involved in the liver metabolism of 2,6-diisopropylphenol. Kraus et al. (2000) showed that CYP2B11 was the major enzyme in dogs for metabolizing the ring hydroxylation of 2,6-diisopropylphenol. In human, CYP2B6 and to a lesser extent CYP2C9 were demonstrated to be involved in the		

oxidative metabolism of 2,6-diisopropylphenol. Rats are common and excellent animal models used in the pharmacological and toxicological studies of drugs. However, study about which CYP isoforms contribute to the 2,6-diisopropylphenol metabolism in rat liver is rare. The present study is aimed to characterize the isoform(s) of CYPs metabolizing 2,6-diisopropylphenol in rat livers. After treating with CYP inducers, rat liver microsomes will be prepared, and CYP activities and proteins will also be determined. In vitro biotransformation of 2,6-diisopropylphenol with/without CYP-specific inhibitors or antibodies and HPLC analyses of the metabolites will be carried out to evaluate which CYP isoform in rat liver is involved in the 2,6-diisopropylphenol metabolism. Identification of the major CYP isoform responsible for 2,6-diisopropylphenol hydroxylation in rat livers may aid better understandings of 2,6-diisopropylphenol about the pharmacological and toxicological characteristics of the intravenous anesthetic.