

ラットにおけるヒドラジンならびにその 代謝物の臓器移行性

金尾 義治, 井口 定男, 久保 博昭*
岩切なおみ*, 松山 賢治*

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Tissue Distribution of Hydrazine and Its Metabolites in Rats

Yoshiharu KANEO, Sadao IGUCHI, Hiroaki KUBO*,
Naomi IWAGIRI*, and Kenji MATSUYAMA*

ABSTRACT The tissue distribution and the urinary excretion of hydrazines, hydrazine, acetylhydrazine and 1,2-diacetylhydrazine, were determined by mass fragmentography using a gas chromatography-mass spectrometer equipped with a multiple ion detector-peak matcher. Using the compounds labeled with a stable isotope as an internal standard, namely the isotope dilution method, made it possible to estimate trace amount of hydrazine and its metabolites in tissues. Significantly high levels of all hydrazines were detected in the kidney. Especially, acetylhydrazine, a metabolite of hydrazine, accumulated to a great extent in the kidney. Free hydrazine which was liberated from acetylhydrazine was detected both in the tissues and in the urine after the administration of acetylhydrazine. This demonstrates clearly that the metabolic pathway between hydrazine and acetylhydrazine is reversible.

抄録 ロケット推進剤として大量に使用される有害物質ヒドラジンとその代謝物アセチルヒドラジン, 1,2-ジアセチルヒドラジンのラット生体内における挙動を検討した。測定には内部標準物質として¹⁵N 安定同位元素標識体による同位体希釈法により, GC-MS を用いたマスフラグメントグラフィーで行った。ヒドラジン類はいずれも腎に有意に高く, とくにアセチルヒドラジンの腎への分布が著しいことが明らかとなった。

* Faculty of Pharmaceutical Sciences, Kyushu University 九州大学薬学部