

# キャピラリーガスクロマトグラフィーによる イソプロピルアンチピリンとその重水素標識 体の同位体分離

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## Isotopic Fractionation of Isopropylantipyrine and Its Deuterated Analogues by Capillary Gas Chromatography

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Isotopic fractionation of isopropylantipyrine (IPA) and its deuterated analogues was examined by gas chromatography using capillary column. The separation of IPA and seven kinds of deuterated IPAs were proportional to the number of labeled deuterium atoms and inversely to the temperature of the column oven. The resolution coefficient between IPA and IPA-3-C<sup>2</sup>H<sub>3</sub>-4-(C<sup>2</sup>H<sub>3</sub>)<sub>2</sub> (IPA-<sup>2</sup>H-7) was 1.46 at 200°C for column temperature.

The present isotopic fractionation procedure was applied to the isotope dilution analysis of IPA. Measurement of the samples prepared by the addition of a known amount of IPA and IPA-<sup>2</sup>H-7 to the control plasma of rabbit allowed observation of a linear relationship between peak area ratio and added amount ratio. The correlation coefficient obtained by regression analysis was 1.000. The present method was also applied to determine the plasma level of IPA in rabbit after oral administration.

キャピラリーカラムを用いてガスクロマトによりイソプロピルアンチピリン(IPA)とその重水素標識体の同位体分離を検討した。IPAと7種の重水素標識体との分離は標識重水素数に比例し、カラム温度に反比例した。IPAとIPA-3-C<sup>2</sup>H<sub>3</sub>-4-(C<sup>2</sup>H<sub>3</sub>)<sub>2</sub>(IPA-<sup>2</sup>H-7)との分離係数はカラム温度200°Cで1.46であった。本同位体分離法をIPAの同位体希釈分析に応用した。既知量のIPA及びIPA-<sup>2</sup>H-7をウサギ血漿に添加して測定したところ、添加重量比とピーク面積比の間に直線性が認められ、相関係数は1.000であった。本方法をIPA経口投与後のウサギ血漿濃度の測定に応用した。