p-Aminohippuric acid sodium salt

Product Number  A3759
Store at Room Temperature

Product Description
Molecular Formula: C₉H₉N₂NaO₃
Molecular Weight: 216.2
CAS Number: 94-16-6
pKₐ of conjugate acid: 3.6¹
Melting point: 123-125 °C
Synonyms: 4-Aminohippuric acid sodium salt, N-(4-Aminobenzoyl)glycine sodium salt, PAH.

p-Aminohippuric acid (PAH) is a liver metabolite of p-aminobenzoic acid (PABA). PAH is formed by conjugation of PABA and glycine. The ability of the liver to convert PABA to PAH is a way of measuring liver function.² An HPLC method for the determination of PAH and PABA levels in urine has been published.³

This product has been used to measure renal function by two different methods. One method which uses PAH and inulin to measure renal flow is an enzymatic assay for inulin.⁴ The other is a direct assay for this compound which measures renal flow. Plasma clearance of aminohippurate is considered to be equal to the effective renal plasma flow.⁵ The mechanism by which this compound is secreted by the kidneys involves an organic anion transporter.⁶ This compound causes natriuresis (excessive loss of sodium in the urine). The mechanism for the natriuretic effect has been determined.⁷

The effect of this compound on the central nervous system (CNS) distribution of the anti-AIDS drugs ddC and AZT has been studied.⁸

Precautions and Disclaimer
For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions
This product is soluble in water (50 mg/ml), yielding a clear, colorless solution. A USP formulation of this compound consists of an aqueous solution (200 mg/ml) of PAH free acid prepared with the addition of sodium hydroxide; it has a pH of 6.7-7.6.¹ This compound is also soluble in dilute hydrochloric acid (200 mg/ml, with decomposition). It is freely soluble in alkaline solutions (with decomposition).¹

Storage/Stability
A 1% solution of this compound at pH 7 has been found to stable after storage for one week at 80 °C.⁹

References