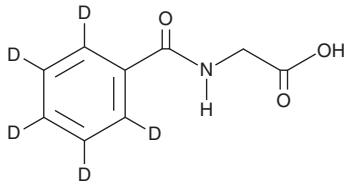
PRODUCT INFORMATION

Hippuric Acid-d_5

Item No. 46213

CAS Registry No.: 53518-98-2
Formal Name: N-(benzoyl-2,3,4,5,6-d_5)-glycine
MF: $C_9H_4D_5NO_3$
FW: 184.2
Chemical Purity: ≥98% (Hippuric Acid)
Deuterium Incorporation: ≥99% deuterated forms (d_1-d_5); ≤1% d_0
Supplied as: A solid
Storage: -20°C
Stability: ≥4 years



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Hippuric acid-d_5 is intended for use as an internal standard for the quantification of hippuric acid by GC- or LC-MS. The accuracy of the sample weight in this vial is between 5% over and 2% under the amount shown on the vial. If better precision is required, the deuterated standard should be quantitated against a more precisely weighed unlabeled standard by constructing a standard curve of peak intensity ratios (deuterated *versus* unlabeled).

Hippuric acid-d_5 is supplied as a solid. A stock solution may be made by dissolving the hippuric acid-d_5 in the solvent of choice, which should be purged with an inert gas. Hippuric acid-d_5 is soluble (≥10 mg/ml) in DMSO and slightly soluble (0.1-1 mg/ml) in ethanol.

Description

Hippuric acid is a glycine conjugate of benzoic acid.[1] It is formed *in vivo* from benzoic acid by CoA and glycine *via* a benzoyl-CoA intermediate in the human liver and renal cortex and is excreted in the urine. Hippuric acid reduces the levels of nuclear factor erythroid 2-related factor 2 (Nrf2) and increases the levels of reactive oxygen species (ROS) and fibrosis-related proteins, including collagen I and α-smooth muscle actin (α-SMA), in HK-2 kidney epithelial cells.[2] It reduces renal Nrf2 levels and induces renal fibrosis and redox imbalance in a rat model of chronic kidney disease at 100 mg/kg.

References

1. Lees, H.J., Swann, J.R., Wilson, I.D., *et al.* Hippurate: The natural history of a mammalian-microbial cometabolite. *J. Proteome Res.* **12(4),** 1527-1546 (2013).
2. Sun, B., Wang, X., Liu, X., *et al.* Hippuric acid promotes renal fibrosis by disrupting redox homeostasis via facilitation of NRF2-KEAP1-CUL3 interactions in chronic kidney disease. *Antioxidants (Basel)* **9(9),** 783 (2020).

WARNING
THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA
This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent *via* email to your institution.

WARRANTY AND LIMITATION OF REMEDY
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