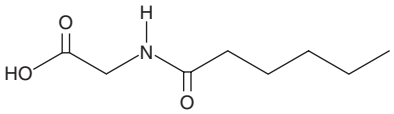
PRODUCT INFORMATION

Hexanoyl Glycine

Item No. 16412

CAS Registry No.:	24003-67-6
Formal Name:	N-1-oxohexyl-glycine
Synonym:	NSC 224460
MF:	$C_8H_{15}NO_3$
FW:	173.2
Purity:	≥95%
Supplied as:	A crystalline 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

Hexanoyl glycine is supplied as a crystalline solid. A stock solution may be made by dissolving the hexanoyl glycine in the solvent of choice, which should be purged with an inert gas. Hexanoyl glycine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of hexanoyl glycine in ethanol and DMF is approximately 50 mg/ml and approximately 30 mg/ml in DMSO.

Further dilutions of the stock solution into aqueous buffers or isotonic saline should be made prior to performing biological experiments. Ensure that the residual amount of organic solvent is insignificant, since organic solvents may have physiological effects at low concentrations. Organic solvent-free aqueous solutions of hexanoyl glycine can be prepared by directly dissolving the crystalline solid in aqueous buffers. The solubility of hexanoyl glycine in PBS (pH 7.2) is approximately 5 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Hexanoyl glycine is an acylated amino acid that is used as a urinary biomarker for several indications. It is normally biosynthesized from hexanoyl-CoA and glycine by the mitochondrial enzyme glycine N-acyltransferase. Increased urinary excretion of hexanoyl glycine in humans is indicative of a deficiency in medium-chain acyl-CoA dehydrogenase.[1,2] Increased urinary hexanoyl glycine can also be used as a biomarker for exposure to gamma radiation.[3] Levels of hexanyl glycine can also be elevated during cancer, while they are decreased 20-fold in mice following treatment with the PPARα ligand Wy 14643 (Item No. 70730).[4,5]

References

1. Rinaldo, P., O'Shea, J.J., Coates, P.M., *et al.* Medium-chain acyl-CoA dehydrogenase deficiency. Diagnosis by stable-isotope dilution measurement of urinary n-hexanoylglycine and 3-phenylpropionylglycine. *N. Engl. J. Med.* **319(20)**, 1308-1313 (1988).
2. Tserng, K.Y., Jin, S.J., Kerr, D.S., *et al.* Abnormal urinary excretion of unsaturated dicarboxylic acids in patients with medium-chain acyl-CoA dehydrogenase deficiency. *J. Lipid Res.* **31(5)**, 763-761 (1990).
3. Tyburski, J.B., Patterson, A.D., Krausz, K.W., *et al.* Radiation metabolomics: Identification of minimally invasive urine biomarkers for gamma-radiation exposure in mice. *Radiat. Res.* **170(1)**, 1-14 (2008).
4. Li, F., Patterson, A.D., Krausz, K.W., *et al.* Metabolomics reveals that tumor xenografts induce liver dysfunction. *Mol. Cell. Proteomics* **12(8)**, 2126-2135 (2013).
5. Zhen, Y., Krausz, K.W., Chen, C., *et al.* Metabolomic and genetic analysis of biomarkers for PPARα expression and activation. *Mol. Endocrinol.* **21(9)**, 2136-2151 (2007).

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
Buyer agrees to purchase the material subject to Cayman's Terms and Conditions. Complete Terms and Conditions including Warranty and Limitation of Liability information can be found on our website.

Copyright Cayman Chemical Company, 11/30/2022

CAYMAN CHEMICAL
1180 EAST ELLSWORTH RD
ANN ARBOR, MI 48108 · USA
PHONE: [800] 364-9897
[734] 971-3335
FAX: [734] 971-3640
CUSTSERV@CAYMANCHEM.COM
WWW.**CAYMANCHEM**.COM