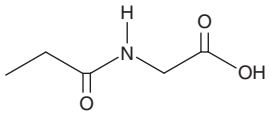
PRODUCT INFORMATION

N-Propionylglycine

Item No. 34377

CAS Registry No.:	21709-90-0
Formal Name:	N-(1-oxopropyl)-glycine
Synonym:	NSC 158539
MF:	$C_5H_9NO_3$
FW:	131.1
Purity:	≥95%
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

N-Propionylglycine is supplied as a solid. A stock solution may be made by dissolving the N-propionylglycine in the solvent of choice, which should be purged with an inert gas. N-Propionylglycine is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of N-propionylglycine in ethanol is approximately 15 mg/ml and approximately 30 mg/ml in DMSO and DMF.

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 N-propionylglycine can be prepared by directly dissolving the solid in aqueous buffers. The solubility of N-propionylglycine in PBS (pH 7.2) is approximately 10 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

N-Propionylglycine is a glycine-conjugated form of propionic acid.[1] It is produced by glycine-N-acylase from propionyl-CoA, a catabolic intermediate that accumulates when the activity of propionyl-CoA carboxylase, the enzyme that converts propionyl-CoA to methylmalonyl-CoA, is deficient, in the mitochondria.[1,2] Urinary levels of N-propionylglycine are increased in patients with propionic acidemia, an inborn error of metabolism characterized by vomiting, lethargy, protein intolerance, and failure to thrive.[1]

References

1. Riemersma, M., Hazebroek, M.R., Helderman-van den Enden, A.T.J.M., *et al*. Propionic acidemia as a cause of adult-onset dilated cardiomyopathy. *Eur. J. Hum. Genet*. **25(11)**, 1195-1201 (2017).
2. Fong, B.M.-W., Tam, S., and Leung, S.-Y. Quantification of acylglycines in human urine by HPLC electrospray ionization-tandem mass spectrometry and the establishment of pediatric reference interval in local Chinese. *Talanta* **88**, 193-200 (2012).

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