

Product Data Sheet

Product Name: H-β-Ala-OH

Cat. No.: GA10663

Chemical Properties

Cas. No. 107-95-9

Chemical Name 3-aminopropanoic acid

SMILES C(CN)C(=O)O

Formula C3H7NO2

M.Wt 89.1

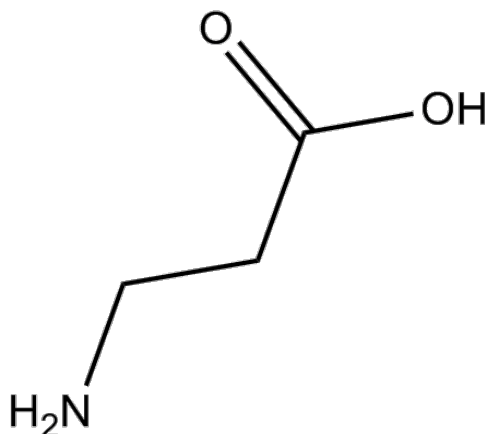
Solubility Soluble to 100 mM in sterile water

Storage Store at -20°C

General tips For obtaining a higher solubility, please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution: ship with blue ice. All other available size: ship with RT, or blue ice upon request.

Structure



Background

β-Alanine is a non-essential amino acid that is shown to be metabolized into carnosine, which functions as an intracellular buffer.

Cells treated with β-alanine display significantly suppressed basal and peak ECAR (aerobic glycolysis), with simultaneous increase in glucose transporter 1 (GLUT1). Additionally, cells treated with β-alanine exhibit significantly reduced basal and peak OCR (oxidative metabolism), which is

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accompanied by reduction in mitochondrial content with subsequent suppression of genes which promote mitochondrial biosynthesis. Suppression of glycolytic and oxidative metabolism by β -alanine results in the reduction of total metabolic rate, although cell viability is not affected. β -alanine is shown to reduce both cell migration and proliferation without acting in a cytotoxic fashion. Moreover, β -alanine significantly increases malignant cell sensitivity to doxorubicin, suggesting a potential role as a co-therapeutic agent[1].

References:

[1]. Vaughan RA, et al. β -alanine suppresses malignant breast epithelial cell aggressiveness through alterations in metabolism and cellular acidity in vitro. Mol Cancer. 2014 Jan 24;13:14.

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