

Product Data Sheet

Product Name: H-Dab⁺HBr

Cat. No.: GA10664

Chemical Properties

Cas. No. 1758-80-1

Chemical Name (S)-2,4-diaminobutanoic acid

SMILES O=C([C@@](C([H])([H])C([H])([H])N([H])([H]))([H])N([H])([H])O[H]

Formula C₄H₁₀N₂O₂

M.Wt 118.13

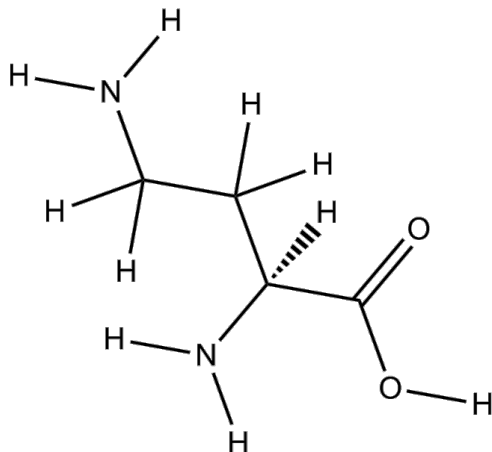
Solubility

Storage

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



Protocol

Caution: Product has not been fully validated for medical applications. For research use only.

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Animal experiment: Mice: Male Sprague Dawley rats (150-200g) are used in the study. LDABA is dissolved in 0.9% saline and diluted in appropriate medium. L-DABA is administered intraperitoneally at a dose of 764 mg/kg in a volume of 4 mL/kg in acute studies. Chronically treated rats receive daily intraperitoneal injections (2.5mM/kg in saline) for 3 days. Mice are sacrificed and the brain regions are dissected for analysis[2].

References:

- [1]. Ronquist G, et al. Antitumor activity of L-2,4 diaminobutyric acid against mouse fibrosarcoma cells in vitro and in vivo. J Cancer Res Clin Oncol. 1980;96(3):259-68.
- [2]. Beart PM, et al. L-2,4-Diaminobutyric acid and the GABA system. Neurosci Lett. 1977 Jul;5(3-4):193-8.
- [3]. Panasci L, et al. The cytolytic effect of L-2,4 diaminobutyric acid with malignant glioma cells and fibroblasts. Cancer Chemother Pharmacol. 1988;21(2):143-4.

Background

L-DABA (L-2,4-Diaminobutyric acid) is a weak GABA transaminase inhibitor with an IC₅₀ of larger than 500 μ M; exhibits antitumor activity in vivo and in vitro.

The tumor cells are irreversibly and totally damaged by incubation with 10 mM L-2,4-Diaminobutyric acid for 24 h at 37°C. The cell-destructive effect by L-DABA is probably due to an osmotic lysis induced by the non-saturated intracellular accumulation of L-DABA. The harmful effect of L-DABA could be abolished by concomitant incubation with L-alanine and L-methionine[1]. Kinetic studies indicate that L-DABA is a non-linear, non-competitive inhibitor of GABA transaminase activity. The L-DABA-induced elevation of GABA levels parallels the inhibition of GABA transaminase activity[2]. L-2,4-Diaminobutyric acid, an amino acid analogue, produces a cytolytic effect with a human glioma cell line, SKMG-1, and normal human fibroblasts. The concentrations of L-DABA necessary to reduce the cell count to 50% of control following a 24-h incubation at 37°C are 12.5 mM for the human fibroblasts and 20 mM for the glioma cell line[3].

Treatment with L-DABA results in 43.4% reduction of tumor growth[1]. L-DABA is a more effective

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inhibitor of GABA transaminase in vivo than in vitro[2].

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- [2]. Beart PM, et al. L-2,4-Diaminobutyric acid and the GABA system. Neurosci Lett. 1977 Jul;5(3-4):193-8.
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