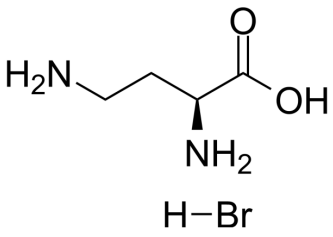
L-DABA hydrobromide

Cat. No.:	HY-101414A
CAS No.:	73143-97-2
Molecular Formula:	$C_4H_{11}BrN_2O_2$
Molecular Weight:	199.05
Target:	Endogenous Metabolite; GABA Receptor
Pathway:	Metabolic Enzyme/Protease; Membrane Transporter/Ion Channel; Neuronal Signaling
Storage:	4°C, sealed storage, away from moisture * In solvent : -80°C, 6 months; -20°C, 1 month (sealed storage, away from moisture)



BIOLOGICAL ACTIVITY

Description	L-DABA (L-2,4-Diaminobutyric acid) hydrobromide is a week GABA transaminase inhibitor with an IC_{50} of larger than 500 μM; exhibits antitumor activity in vivo and in vitro.
IC_{50} & Target	IC50: larger than 500 μM (GABA transaminase)[1]
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 hydrobromide is probably due to an osmotic lysis induced by the non-saturated intracellular accumulation of L-DABA hydrobromide. The harmful effect of L-DABA hydrobromide could be abolished by concomitant incubation with L-alanine and L-methionine[1]. Kinetic studies indicates that L-DABA hydrobromide is a non-linear, non-competitive inhibitor of GABA transaminase activity. The L-DABA hydrobromide-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 hydrobromide 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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	Treatment with L-DABA hydrobromide results in 43.4% reduction of tumor growth[1]. L-DABA hydrobromide is a more effective inhibitor of GABA transaminase in vivo than in vitro[2]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[1]. Ronquist G, et al. Antitumor activity of L-2,4 diaminobuturic 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.

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

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