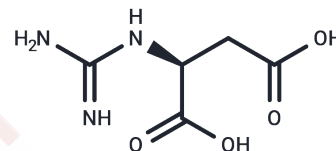


Guanidinosuccinic acid

Chemical Properties

CAS No. :	6133-30-8
Formula:	C ₅ H ₉ N ₃ O ₄
Molecular Weight:	175.14
Storage:	Powder: -20°C for 3 years In solvent: -80°C for 1 year Actual storage temperature shall be subject to the COA.



Biological Description

Description	Guanidinosuccinic acid (GSA) has been identified as a uremic toxin, is a nitrogenous metabolite isolated in excess from serum and urine.
Targets(IC50)	Endogenous Metabolite
In vivo	Guanidinosuccinic acid (GSA), a guanidino compound found to be greatly increased in uremia, was administered by intraperitoneal (i.p.) injection to adult albino mice and to young mice 7, 14 and 21 days old. Epileptogenic and toxic properties were assessed and GSA brain levels following i.p. injection were determined. In adult mice, GSA induced long-lasting generalized clonic and clonic-tonic convulsions in a dose-dependent manner with a CD50 (and 95% confidence interval) of 363 (287-458) mg/kg (n = 35), and an LD50 of 579 (445-756) mg/kg. The CD50 of GSA corresponded with a brain concentration of 56 nmol/g tissue. Electrocorticographic recording in five adult mice revealed epileptiform discharges (spikes, spike-waves, and polyspike-waves) which appeared concomitant with the convulsions. When young mice were i.p. injected with a (for adults) subconvulsive dose of GSA (250 mg/kg), an age-dependent decrease was noted in GSA-induced convulsions and in the resulting brain concentration[1].

Solubility Information

Solubility	H ₂ O: 6 mg/mL (34.26 mM), Sonication is recommended. DMSO: 15.63 mg/mL (89.24 mM), Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
In vivo Formulation	10% DMSO+90% Saline: 2.23 mg/mL (12.73 mM), Solution. <i>Please add the solvents sequentially, clarifying the solution as much as possible before adding the next one. Dissolve by heating and/or sonication if necessary. Working solution is recommended to be prepared and used immediately. The formulation provided above is for reference purposes only. In vivo formulations may vary and should be modified based on specific experimental conditions.</i>

Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	5.7097 mL	28.5486 mL	57.0972 mL
5 mM	1.1419 mL	5.7097 mL	11.4194 mL
10 mM	0.571 mL	2.8549 mL	5.7097 mL
50 mM	0.1142 mL	0.571 mL	1.1419 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. Please use it as soon as possible.

Note: The dilution table applies only to solid products. For liquid products, please calculate the stock solution based on the stated concentration and/or density.

Reference

D"Hooge R , Pei Y Q , Marescau B , et al. Behavioral toxicity of guanidinosuccinic acid in adult and young mice[J]. Toxicology Letters (Shannon), 1992, 64 65(SPEC. ISSUE):773-777.

Kasai Y , Akanuma S I , Kubo Y , et al. Pharmacokinetics of Guanidinosuccinic Acid in Rat Blood and Cerebrospinal Fluid[J]. Drug Metabolism and Pharmacokinetics, 2014, 29(1):97-100.

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