

Dihydroxyaflavinine

Chemical Properties

CAS No.:	76410-56-5
Formula:	C ₂₈ H ₃₉ NO ₃
Molecular Weight:	437.62
Appearance:	N/A
Storage:	0-4°C for short term (days to weeks), or -20°C for long term (months).

Biological Description

Description	Dihydroxyaflavinine is a fungal toxin, it inhibits non-competitively GABAA receptor channel expressed in <i>Xenopus oocytes</i> . Dihydroxyaflavinine shows oral toxicity to the fall armyworm (<i>Spodoptera frugiperda</i>) and corn earworm (<i>Heliothis zea</i>).
Targets(IC ₅₀)	GABA Receptor: None
In vitro	Dihydroxyaflavinine is an indole-derived metabolite of <i>Aspergillus flavus</i> . METHODS AND RESULTS: Its action on GABA-induced response was quantitatively studied on the GABAA receptor expressed in <i>Xenopus oocytes</i> after injection of chick brain mRNA under voltage-clamp conditions. Dihydroxyaflavinine inhibits GABA-induced current non-competitively with KI = 12 μmol/L. This blockage is rapidly reversible. In comparison, the inhibitory effect of penicillin on GABAA receptor is enhanced by increasing GABA concentration. Ro 15-1788 (a benzodiazepine ligand with KD = 0.6--2 nmol/L) of concentration as high as 1 μmol/L, does not mask the action of 10 μmol/L Dihydroxyaflavinine, indicating that Dihydroxyaflavinine acts on a site different from benzodiazepines. CONCLUSIONS: Dihydroxyaflavinine appears to expedite desensitization of the receptor, which is similar to the action of picrotoxin and in contrast with that of penicillin and bicuculline.

Solubility Information

Solubility	< 1 mg/ml refers to the product slightly soluble or insoluble
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Preparing Stock Solutions

	1mg	5mg	10mg
1 mM	2.285 mL	11.425 mL	22.851 mL
5 mM	0.457 mL	2.285 mL	4.570 mL
10 mM	0.229 mL	1.143 mL	2.285 mL
50 mM	0.046 mL	0.229 mL	0.457 mL

Please select the appropriate solvent to prepare the stock solution, according to the solubility of the product in different solvents. The storage conditions and period of the stock solution: - 80 °C for 6 months; - 20 °C for 1 month. Please use it as soon as possible.

Reference

1. Fungal toxin dihydroxyflavinine inhibits non-competitively GABAA receptor channel expressed in Xenopus oocytes. Sheng Li Xue Bao. 1991 Jun;43(3):227-35.
2. Toxicity of selected tremorgenic mycotoxins and related compounds to Spodoptera frugiperda and Heliothis zea. J Antibiot (Tokyo). 1988 Dec;41(12):1868-72.

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