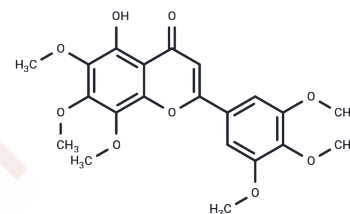


## Gardenin A

## Chemical Properties

CAS No. :	21187-73-5
Formula:	C <sub>21</sub> H <sub>22</sub> O <sub>9</sub>
Molecular Weight:	418.39
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	Gardenin A is a synthetic polymethoxyflavone (PMF) analog with oral efficacy. It exerts neurotrophic effects by activating the MAPK/ERK, PKC, and PKA pathways, and possesses antidepressant, anxiolytic, and anticonvulsant activities.
Targets(IC50)	ERK,MAPK,LDL,PAK,PKA,PKC
In vitro	Oral administration of Gardenin A (25 mg/kg) shows sedative effects and increases the duration of sleep without altering sleep onset[2].
In vivo	<p><b>Methods:</b> Male Balb/c mice were used. Gardenin A was administered orally as a single dose at 0.1-25 mg/kg, dissolved in 0.5% carboxymethyl cellulose-normal saline, with behavioral tests conducted 1 hour after administration.</p> <p><b>Results:</b> 25 mg/kg prolonged pentobarbital-induced sleep time; 1-25 mg/kg showed anxiolytic-like effects in elevated plus maze, light-dark box, exploratory cylinder, and open field tests (ED<sub>50</sub>=7 mg/kg), and dose-dependently reduced immobility time in tail suspension and forced swimming tests (ED<sub>50</sub>=3-6 mg/kg). [1]</p> <p><b>Methods:</b> A53T α-synuclein transgenic mouse model was used. Gardenin A was administered orally by gavage at doses of 25 or 100 mg/kg, three times per week for 4 consecutive weeks, dissolved in 0.5% carboxymethyl cellulose-normal saline.</p> <p><b>Results:</b> The 100 mg/kg dose significantly improved conditioned fear memory, open field locomotor activity, and gait abnormalities in mice, reduced brain phosphorylated α-synuclein levels, and restored striatal tyrosine hydroxylase expression. [2]</p>

## Solubility Information

Solubility	DMSO: 21.6 mg/mL (51.63 mM), Sonication and heating are recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	2.3901 mL	11.9506 mL	23.9011 mL
5 mM	0.478 mL	2.3901 mL	4.7802 mL
10 mM	0.239 mL	1.1951 mL	2.3901 mL
50 mM	0.0478 mL	0.239 mL	0.478 mL

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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

Alonso-Castro, Angel J et al. Evaluation of the neuropharmacological effects of Gardenin A in mice. Drug development research vol. 81,5 (2020): 600-608.

Hack, Wyatt et al. Gardenin A treatment attenuates inflammatory markers, synuclein pathology and deficits in tyrosine hydroxylase expression and improves cognitive and motor function in A53T- $\alpha$ -syn mice. Biomedicine & pharmacotherapy = Biomedicine & pharmacotherapie vol. 173 (2024): 116370.

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Tel:781-999-4286 E\_mail:info@targetmol.com Address:34 Washington Street,Wellesley Hills,MA 02481