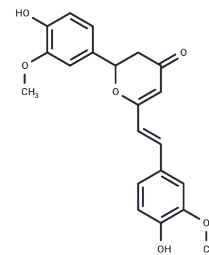


## Cyclocurcumin

## Chemical Properties

CAS No. :	153127-42-5
Formula:	C <sub>21</sub> H <sub>20</sub> O <sub>6</sub>
Molecular Weight:	368.38
Storage:	Keep away from direct sunlight Powder: -20°C for 3 years   In solvent: -80°C for 1 year <small>Actual storage temperature shall be subject to the COA.</small>



## Biological Description

Description	Cyclocurcumin is a minor curcuminoid derived from the rhizome of <i>Curcuma longa</i> that differs structurally from curcumin despite sharing the same molecular formula (C <sub>21</sub> H <sub>20</sub> O <sub>6</sub> ), Cyclocurcumin features an $\alpha,\beta$ -unsaturated dihydropyranone moiety that drives trans-cis photoisomerization instead of the diketone/keto-enol tautomerism characteristic of curcumin. Cyclocurcumin demonstrates potent biochemical activities, including selective inhibition of human aromatase (CYP19A1) with an IC <sub>50</sub> of 4.43 $\mu$ M—approximately fivefold stronger than curcumin—making it valuable for studying estrogen-related pathways, and uniquely stimulates melanogenesis and melanin export in both melanocyte and melanoma models, positioning it as a promising research tool for investigating hypopigmentary skin disorders.
Targets(IC50)	CYP19A1
In vitro	Cyclocurcumin (10-40 $\mu$ M, 18 hours) significantly inhibited LPS-stimulated TNF- $\alpha$ release in <i>Homo sapiens</i> macrophages in a dose-dependent manner [1]. Cyclocurcumin (5-25 $\mu$ M) concentration-dependently antagonized phenylephrine-induced vasoconstriction in freshly isolated rat aortic rings, with a half-maximal inhibitory concentration (IC <sub>50</sub> ) of 14.9 $\pm$ 1.0 $\mu$ M [2]. Cyclocurcumin (5-25 $\mu$ M, 30 minutes) dose-dependently inhibited intracellular calcium influx [2].

## Solubility Information

Solubility	DMSO: 80 mg/mL (217.17 mM),Sonication is 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	2.7146 mL	13.5729 mL	27.1459 mL
5 mM	0.5429 mL	2.7146 mL	5.4292 mL
10 mM	0.2715 mL	1.3573 mL	2.7146 mL
50 mM	0.0543 mL	0.2715 mL	0.5429 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

Fu M, et al. Cyclocurcumin, a curcumin derivative, exhibits immune-modulating ability and is a potential compound for the treatment of rheumatoid arthritis as predicted by the MM-PBSA method. *Int J Mol Med.* 2017 May;39(5):1164-1172.

Kim K, et al. Cyclocurcumin, an Antivasoconstrictive Constituent of *Curcuma longa* (Turmeric). *J Nat Prod.* 2017 Jan 27;80(1):196-200.

Li Y, et al. Antioxidant properties and free radical scavenging mechanisms of cyclocurcumin. *New Journal of Chemistry*, 2018, 42(15): 12698-12705.

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