

## Mulberrofuran C

## Chemical Properties

CAS No. : 77996-04-4

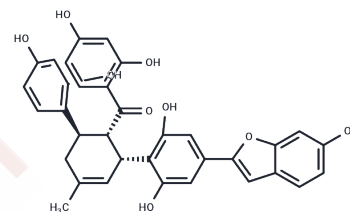
Formula: C<sub>34</sub>H<sub>28</sub>O<sub>9</sub>

Molecular Weight: 580.58

Keep away from direct sunlight

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	Mulberrofuran C, a benzofuran present in <i>Morus alba</i> , has inhibitory effects on A $\beta$ <sub>1-42</sub> auto-aggregation, tau protein aggregation, AChE, antioxidant activity and neuroprotective effects, and has anti-Alzheimer's disease potential.
Targets(IC50)	Antioxidant, Gamma-secretase, Microtubule Associated, Cholinesterase (ChE)
In vitro	Mulberrofuran C (Compound 2) exhibited multi-target in vitro activities relevant to Alzheimer's disease. At 20 $\mu$ M, Mulberrofuran C inhibited A $\beta$ <sub>1-42</sub> self-aggregation by 70.7%, comparable to resveratrol (72.8%) and stronger than methylene blue (33.5%). Mulberrofuran C also suppressed tau protein aggregation (49.1% inhibition) and demonstrated strong antioxidant activity (ORAC value: 2.9, higher than Trolox). In cholinesterase inhibition assays, Mulberrofuran C showed moderate AChE inhibition (IC <sub>50</sub> = 4.2 $\mu$ M), and in LPS-induced BV2 microglial cells, Mulberrofuran C suppressed NO production with an IC <sub>50</sub> of 21.8 $\mu$ M [1]. Mulberrofuran C (Compound 2) exhibited in vitro antiviral activity against herpes simplex viruses HSV-1 and HSV-2 in Vero cells. In plaque reduction assays, Mulberrofuran C showed IC <sub>50</sub> values of 5.0, 3.1, and 3.2 $\mu$ g/mL against HSV-1 (standard strain), HSV-1 (clinical strain), and HSV-2, respectively. The cytotoxic concentration (CC <sub>50</sub> ) of Mulberrofuran C was 28.0 $\mu$ g/mL, yielding selectivity indices between 5.6 and 8.9, indicating moderate antiviral efficacy with acceptable cytotoxicity [2].

### Preparing Stock Solutions

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	1mg	5mg	10mg
1 mM	1.7224 mL	8.6121 mL	17.2242 mL
5 mM	0.3445 mL	1.7224 mL	3.4448 mL
10 mM	0.1722 mL	0.8612 mL	1.7224 mL
50 mM	0.0344 mL	0.1722 mL	0.3445 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

Xia CL, Tang GH, Guo YQ, Xu YK, Huang ZS, Yin S. Mulberry Diels-Alder-type adducts from *Morus alba* as multi-targeted agents for Alzheimer's disease. *Phytochemistry*. 2019 Jan;157:82-91.

Ma F, Shen W, Zhang X, Li M, Wang Y, Zou Y, Li Y, Wang H. Anti-HSV Activity of Kuwanon X from Mulberry Leaves with Genes Expression Inhibitory and HSV-1 Induced NF- $\kappa$ B Deactivated Properties. *Biol Pharm Bull*. 2016;39(10):1667-1674. doi: 10.1248/bpb.b16-00401. PMID: 27725444.

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