

## Product Data Sheet

Product Name: Stepharine

Cat. No.: GC64456

### Chemical Properties

Cas. No. 2810-21-1

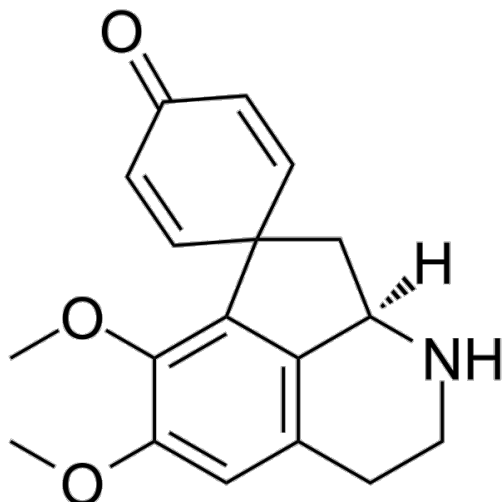
Formula C<sub>18</sub>H<sub>19</sub>NO<sub>3</sub> M.Wt 297.35

Solubility DMSO : 25 mg/mL (84.08 mM; Need ultrasonic) Storage 4°C, protect from light

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure



### Background

Stepharine, an natural alkaloid, directly interacts with TLR4 and binds to the TLR4/MD2 complex (TLR4 inhibitor). Stepharine possesses anti-aging, anti-viral and anti-hypertensive effects[1].

Stepharine (10, 30 μM) substantially inhibits nitric oxide (NO) release as well as the mRNA and protein expression of pro-inflammatory mediators [inducible nitric oxide synthase, interleukin (IL)-6, tumor necrosis factor (TNF)-α, IL-1β] in LPS-activated BV-2 cells[1]. Stepharine (10, 30 μM) inhibits LPS-induced increase of TLR4 expression, IκBα phosphorylation, and NF-κB p65 nuclear

**Caution: Product has not been fully validated for medical applications. For research use only.**

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translocation[1].Stepharine exhibits neuroprotective effects on SH-SY5Y cells cultured with LPS-treated conditioned medium. Stepharine has also shown to inhibit cholinesterase in vitro[1].

Stepharine (500 µg/kg) inhibited NeuN+ cells loss and Iba-1+ cells increase in the MCAO ischemic cortex[1].

[1]. Tingyu Hao, et al. Inflammatory mechanism of cerebral ischemia-reperfusion injury with treatment of stepharine in rats. Phytomedicine. 2020 Dec;79:153353.

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