

Product Data Sheet

Product Name: TML-6
Cat. No.: GC63230

Chemical Properties

Cas. No. 1462868-88-7

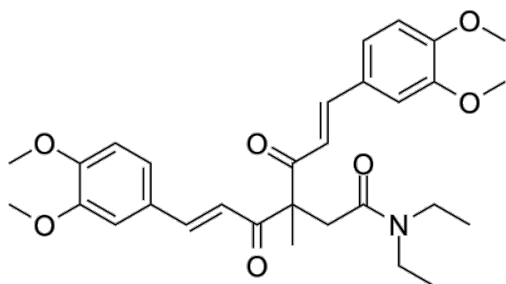
Formula $C_{30}H_{37}NO_7$ M.Wt 523.62

Solubility DMSO : 120 mg/mL (229.17 mM; Storage 4°C, stored under nitrogen
Need ultrasonic)

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

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

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TML-6, an orally active curcumin derivative, inhibits the synthesis of the β -amyloid precursor protein and β -amyloid ($A\beta$). TML-6 can upregulate Apo E, suppress NF- κ B and mTOR, and increase the activity of the anti-oxidative Nrf2 gene. TML-6 has the potential for Alzheimer's disease (AD) research[1].

TML-6 (0.65-5.24 μ g/mL; for 24 h) reduces the protein expression levels of APP and phospho-NF- κ B, and induces the protein expression level of ApoE. TML-6 inhibits the mTOR signaling pathway through the suppression of phospho-mTOR[1]. TML-6 (0.31, 0.63, 2.5, 5, 10, 20 μ M; 24 h) reveals no cytotoxicity in Huh-7 cells at concentrations below 5 μ M and has an IC₅₀ of 4.19 μ g/mL (8 μ M)[1]. TML-6 (1.05, 2.09, 3.14, 4.19 μ g/mL; 24 h) reduces the production of $A\beta$ ₄₀ and $A\beta$ ₄₂ between 1.05, 2.09 and 3.14 μ g/mL (equal to 2, 4 and 6 μ M) in a dose-dependent manner in N2a/APP_{swe} cell[1]. TML-6 can exhibit transcriptional activation of the Nrf2 gene in a dose-dependent manner, with the highest activity at a concentration of 1.32 μ g/mL[1].

TML-6 (diet; 150 mg/kg/day; for four months) treatment results in significant improvement in learning, suppression of the microglial activation marker Iba-1, and reduction in $A\beta$ in the brain[1]. TML-6 (oral; 150 mg/kg) has a T_{1/2} of 1.27 hours, a C_{max} of 35.9 ng/mL and an AUC of 177 ng•hr/mL[1].

[1]. Ih-Jen Su, et al. A Curcumin Analog Exhibits Multiple Biologic Effects on the Pathogenesis of Alzheimer's Disease and Improves Behavior, Inflammation, and β -Amyloid Accumulation in a Mouse Model. Int J Mol Sci. 2020 Jul 30;21(15):5459.

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