

Product Data Sheet

Product Name: Theasinensin C

Cat. No.: GC79569

Chemical Properties

Cas. No. 89013-69-4

Formula $C_{30}H_{26}O_{14}$

M.Wt 610.52

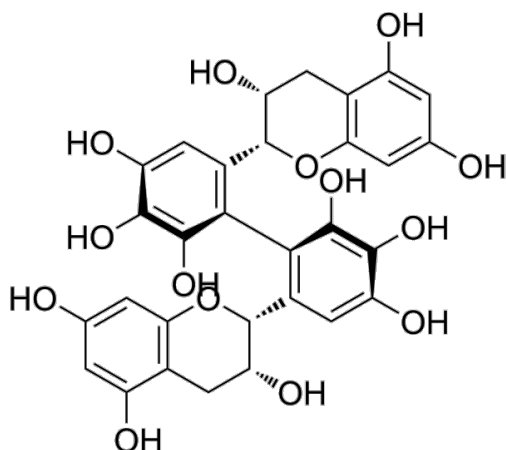
Solubility

Storage Store at -20°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

Theasinensin C is an orally effective renin inhibitor and gut microbiota modulator, with an IC_{50} of 40.21 μ M against renin activity. Theasinensin C selectively enriches *Akkermansia muciniphila* in the gut microbiota, enhances the *Akkermansia muciniphila* -mediated hydrolysis of the PTS domain of mucin, drives the accumulation of luminal glutamine and serine, and regulates the gut-kidney-liver glutamine/serine metabolic signaling pathway to promote creatine biosynthesis. Theasinensin C improves cognitive function, reduces pro-inflammatory cytokines, alleviates neuropathological changes and restores intestinal barrier integrity. Theasinensin C can be used in research related to hypertension and neuroinflammation induced by high-fructose diet [1] [2].

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

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In Vivo, Theasinensin C (150 mg/kg/day; oral gavage; daily; 8 weeks) mitigates HFrD-induced neuroinflammation in male C57BL/6J mice by improving cognitive function, reducing systemic and central inflammatory markers, restoring intestinal barrier integrity, and remodeling gut microbiota to enrich beneficial taxa like *Akkermansia muciniphila*^[3]. Theasinensin C (150 mg/kg/day; oral gavage; daily; 8 weeks) attenuates HFrD-induced neuroinflammation in antibiotic-pretreated germ-free male C57BL/6J mice, with improvements in cognitive function and reduction of central inflammatory markers, though efficacy is enhanced when combined with *Akkermansia muciniphila*-derived metabolites^[3].

In Vitro, Theasinensin C (48 h) enhances *Akkermansia muciniphila* XJ 240720-mediated degradation of the mucin PTS domain, resulting in a significant increase in luminal L-glutamine and L-serine levels^[3].

References:

- [1]. Li F, et al. Tea polyphenols as novel and potent inhibitory substances against renin activity. J Agric Food Chem. 2013;61(40):9697-9704.
- [2]. Ji W, et al. Theasinensin C Mitigates HFrD-Induced Neuroinflammation by Enriching *Akkermansia muciniphila* and Orchestrating a Gln/Ser-Centered Multiorgan Metabolic Relay to Drive Creatine Biosynthesis. J Agric Food Chem. 2026 Apr 1;74(12):10281-10301.

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