

PRODUCT INFORMATION



Thonningianin A

Item No. 44802

CAS Registry No.: 271579-11-4

Formal Name: 1-[4-[[4,6-O-[[[(1S)-4,4',5,5',6,6'-hexahydroxy[1,1'-biphenyl]-2,2'-diyl]dicarbonyl]-3-O-(3,4,5-trihydroxybenzoyl)-β-D-glucopyranosyl]oxy]-2,6-dihydroxyphenyl]-3-phenyl-1-propanone

MF: C₄₂H₃₄O₂₁

FW: 874.7

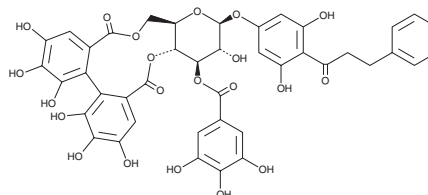
Purity: ≥95%

Supplied as: A solid

Storage: -20°C

Stability: ≥4 years

Item Origin: Synthetic



Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.

Laboratory Procedures

Thonningianin A is supplied as a solid. A stock solution may be made by dissolving the thonningianin A in the solvent of choice, which should be purged with an inert gas. Thonningianin A is slightly soluble (0.1-1 mg/ml) in ethanol and sparingly soluble (1-10 mg/ml) in DMSO.

Description

Thonningianin A is an ellagitannin originally isolated from *T. sanguinea* that has diverse biological activities.¹⁻³ It reduces lipid peroxidation and reactive oxygen species (ROS) formation and prevents reductions in glutathione peroxidase 4 (GPX4) activity, nuclear factor erythroid 2-related factor 2 (Nrf2) nuclear translocation, and cell viability in PC12 cells induced by RSL-3 (Item No. 19288), a ferroptosis inducer.¹ *In vivo*, thonningianin A reduces amyloid-β (Aβ) and phosphorylated tau protein levels and inhibits neuronal death and glial activation in a 3xTg mouse model of Alzheimer's disease.² It is also active against the fungus *C. albicans* (MIC = 1 μg/ml).³

References

1. Yong, Y., Yan, L., Wei, J., et al. A novel ferroptosis inhibitor, Thonningianin A, improves Alzheimer's disease by activating GPX4. *Theranostics* **14**(16), 6161-6184 (2024).
2. Yu, L., Wang, H., Yao, Q., et al. Thonningianin A from *Penthorum chinense* Pursh as a targeted inhibitor of Alzheimer's disease-related β-amyloid and Tau proteins. *Phytother. Res.* **38**(9), 4815-4831 (2024).
3. Wang, H.L., H., Liu, Z., Zhu, Z., et al. Activity of thonningianin A against *Candida albicans* in vitro and in vivo. *Appl. Microbiol. Biotechnol.* 108(1), 96 (2024).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the [complete](#) Safety Data Sheet, which has been sent via email to your institution.

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