

PRODUCT INFORMATION



Theaflavin

Item No. 25129

CAS Registry No.: 4670-05-7
Formal Name: 1,8-bis[(2R,3R)-3,4-dihydro-3,5,7-trihydroxy-2H-1-benzopyran-2-yl]-3,4,6-trihydroxy-5H-benzocyclohepten-5-one

Synonym: (-)-Theaflavin

MF: C₂₉H₂₄O₁₂

FW: 564.5

Purity: ≥98%

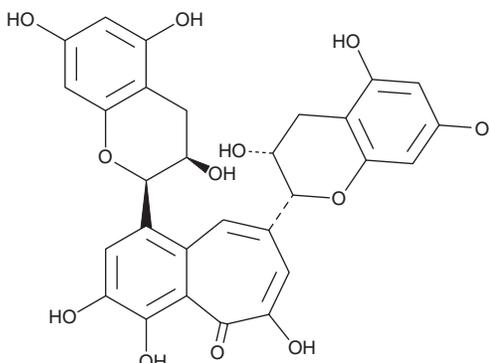
UV/Vis.: λ_{max}: 266, 378, 460 nm

Supplied as: A crystalline solid

Storage: -20°C

Stability: ≥4 years

Item Origin: Plant/Black Tea



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

Laboratory Procedures

Theaflavin is supplied as a crystalline solid. A stock solution may be made by dissolving the theaflavin in the solvent of choice, which should be purged with an inert gas. Theaflavin is soluble in organic solvents such as ethanol, DMSO, and dimethyl formamide (DMF). The solubility of theaflavin in ethanol and DMSO is approximately 10 mg/ml and approximately 25 mg/ml in DMF.

Theaflavin is sparingly soluble in aqueous buffers. For maximum solubility in aqueous buffers, theaflavin should first be dissolved in DMF and then diluted with the aqueous buffer of choice. Theaflavin has a solubility of approximately 0.14 mg/ml in a 1:6 solution of DMF:PBS (pH 7.2) using this method. We do not recommend storing the aqueous solution for more than one day.

Description

Theaflavin is a polyphenolic flavonoid that has been found in black tea and has antioxidant and anticancer activities.^{1,2} It scavenges singlet oxygen and hydrogen peroxide as well as superoxide and hydroxide radicals *in vitro* (IC₅₀s = 0.73, 0.49, 14.5, and 38.0 μM, respectively).³ Theaflavin inhibits the growth of OVCAR-3 and A2780/CP70 human ovarian cancer cell lines, but not the ovarian epithelial cell line IOSE 364 (IC₅₀s = 11.9, 38.5, and >40 μM, respectively).²

References

1. Yoshida, H., Ishikawa, T., Hosoi, H., *et al.* *Biochem. Pharmacol.* **58(11)**, 1695-1703 (1999).
2. Gao, Y., Rankin, G.O., Tu, Y., *et al.* *Anticancer Res.* **36(2)**, 643-651 (2016).
3. Wu, Y.-y., Li, W., Xu, Y., *et al.* *J. Zhejiang. Univ. Sci. B.* **12(9)**, 744-751 (2011).

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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