

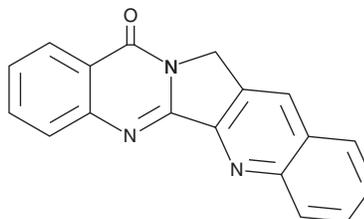
PRODUCT INFORMATION



Luotonin A

Item No. 14253

CAS Registry No.: 205989-12-4
Formal Name: quino[2',3':3,4]pyrrolo[2,1-b]quinazolin-11(13H)-one
MF: C₁₈H₁₁N₃O
FW: 285.3
Purity: ≥98%
UV/Vis.: λ_{max}: 213, 247, 326, 341, 357 nm
Supplied as: A crystalline solid
Storage: -20°C
Stability: ≥4 years



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

Laboratory Procedures

Luotonin A is supplied as a crystalline solid. A stock solution may be made by dissolving the luotonin A in the solvent of choice, which should be purged with an inert gas. Luotonin A is soluble in organic solvents such as DMSO and dimethyl formamide. The solubility of luotonin A in these solvents is approximately 3 mg/ml. Luotonin A is soluble in a 1:1 solution of chloroform:Methanol at a concentration of approximately 2 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Luotonin A is an alkaloid originally isolated from a plant used in traditional Chinese medicine.¹ It inhibits the growth of mouse leukemia P388 cells (IC₅₀ = 1.8 µg/ml).¹ Luotonin A is structurally similar to the alkaloid camptothecin (Item No. 11694) and, like camptothecin, it binds to and stabilizes the topoisomerase I-DNA binary complex, leading to DNA breakage and cell death (IC₅₀ = 5.07-12.6 µM).² Also like camptothecin, luotonin A forms non-covalent complexes with double-stranded DNA in the minor groove and this association can be followed by native fluorescence associated with the aromatic and heterocyclic ring structure.³ Luotonin A also selectively inhibits the cytochrome P450 (CYP) isoforms CYP1A1 and CYP1A2 (IC₅₀ = ~6 µM for each) in human liver microsomes.⁴

References

1. Liang, J.L., Cha, H.C., and Jahng, Y. Recent advances in the studies on luotonins. *Molecules* **16**(6), 4861-4883 (2011).
2. Cagir, A., Jones, S.H., Gao, R., et al. Luotonin A. A naturally occurring human DNA topoisomerase I poison. *J. Am. Chem. Soc.* **125**(45), 13628-13629 (2003).
3. Mussardo, P., Corda, E., González-Ruiz, V., et al. Study of non-covalent interactions of luotonin A derivatives and the DNA minor groove as a first step in the study of their analytical potential as DNA probes. *Anal. Bioanal. Chem.* **400**(2), 321-327 (2011).
4. Jahng, Y., Kwon, O.K., and Lee, S. *In vitro* inhibitory effect of luotonin A on human CYP1A. *Arch. Pharm. Res.* **35**(12), 2199-2203 (2012).

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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