

Product Information

(S)-(+)-Camptothecin

Product Number **C 9911**

Storage Temperature 2-8 °C

Product Description

Molecular Formula: $C_{20}H_{16}N_2O_4$

Molecular Weight: 348.4

CAS Number: 7689-03-4

Melting point = 264-267 °C¹

λ_{max} = 220, 254, 290, 370 nm¹

Extinction coefficient: $E^{1\%1cm} = 37.3$ (220 nm);
29.2 (254 nm); 4.9 (290 nm); 19.9 (370 nm)¹

Specific rotation: -139.5° (10 mg/ml, pyridine, 25 °C)

This product is an alkaloid that exhibits anti-leukemic and anti-tumor activities.^{1,2} This product disrupts DNA processing by topoisomerase I.³ This product was shown to bind reversibly to DNA-topoisomerase I complexes, but not to the enzyme or DNA alone. It appears that camptothecin reversibly traps an intermediate involved in DNA unwinding by topoisomerase I and perturbs the equilibrium, resulting in increased DNA cleavage.

The product is naturally obtained and is the S isomer. It exhibits intense blue fluorescence under UV light.

Precautions and Disclaimer

For Laboratory Use Only. Not for drug, household or other uses.

Preparation Instructions

This product is soluble in DMSO (10 mg/ml). At higher concentrations, heating is required for the product to dissolve completely (approximately 10 minutes at 95 °C), but some precipitation occurs upon cooling to room temperature. It is also soluble in 1 N NaOH (50 mg/ml).

References

1. The Merck Index, 11th ed., Entry# 1742.
2. Horowitz, Antibiotics, **3**, Corcoran & Hahn, eds. (Springer-Verlag, NY, 1975).
3. Hertzberg, R.P. et al. On the mechanism of topoisomerase I Inhibition by camptothecin: evidence for binding to an enzyme-DNA complex. *Biochem.*, **28(11)**, 4629-4638 (1989).

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