

# PRODUCT INFORMATION



## Echinospirin

Item No. 31416

**CAS Registry No.:** 79127-35-8  
**Formal Name:** (1S,4aS,5S,7aS)-1,4a,5,7a-tetrahydro-5-hydroxy-8-oxo-1,5-(epoxymethano)cyclopenta[c]pyran-3-carboxamide

**Synonyms:** NSC 357683, XK-213

**MF:** C<sub>10</sub>H<sub>9</sub>NO<sub>5</sub>

**FW:** 223.2

**Purity:** ≥98%

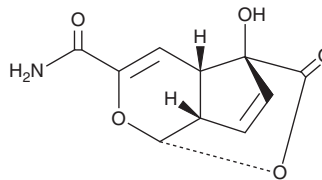
**Supplied as:** A solid

**Storage:** -20°C

**Stability:** ≥2 years

**Item Origin:** Bacterium/*Streptomyces* sp.

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



### Laboratory Procedures

Echinospirin is supplied as a solid. A stock solution may be made by dissolving the echinosporin in the solvent of choice, which should be purged with an inert gas. Echinospirin is soluble in the organic solvents methanol and dimethyl formamide. It is also soluble in water.

### Description

Echinospirin is a bacterial metabolite originally isolated from *Streptomyces echinosporus* that has antibacterial and anticancer activities.<sup>1-3</sup> It is active against *P. vulgaris*, *S. typhosa*, *S. sonnei*, *E. coli*, and *B. subtilis* (MICs = 100, 100, 100, 200, and 400 µg/ml, respectively).<sup>1</sup> Echinospirin induces cell cycle arrest at the G<sub>2</sub>/M phase and apoptosis in, as well as inhibits proliferation of, HCT-15 human colorectal cancer cells (IC<sub>50</sub>s = 1.7, 1.75, and 247 µM, respectively).<sup>2</sup> It inhibits tumor growth in murine P388 leukemia and Meth 1 fibrosarcoma models when administered at doses ranging from 10 to 80 mg/kg.<sup>3</sup>

### References

1. Sato, T., Kawamoto, I., Oka, T., *et al.* A new antibiotic echinosporin (XK-213) - producing organism, isolation and characterization. *J. Antibiot. (Tokyo)* **35(3)**, 266-271 (1982).
2. Cui, C.B., Liu, H.B., Gu, J.Y., *et al.* Echinospirins as new cell cycle inhibitors and apoptosis inducers from marine-derived *Streptomyces albogriseolus*. *Fitoterapia* **78(3)**, 238-240 (2007).
3. Morimoto, M. and Imai, R. Antitumor activity of echinosporin. *J. Antibiot. (Tokyo)* **38(4)**, 490-495 (1985).

#### 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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