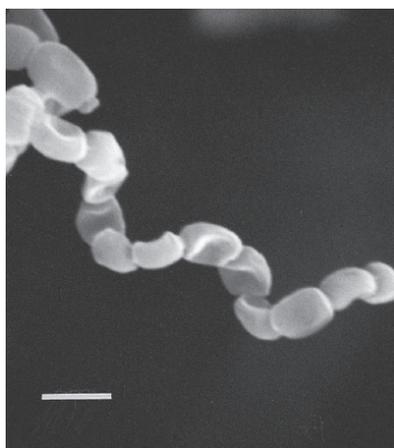


Louisianin

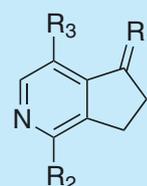
1. Discovery, producing organism and structures^{1,2)}

Louisianins were isolated from the culture broth of the actinomycete strain WK-4028 and recognized as cytotoxic agents active against testosterone-responsive SC 115 cells.

The first total synthesis of louisianin A was achieved by Chang *et al.*³⁾ and louisianin C was achieved by Ross *et al.*⁴⁾



Streptomyces sp. WK-4028



Louisianin	R ₁	R ₂	R ₃
A	O	OH	-CH ₂ -CH=CH ₂
B	OH, H	OH	-CH ₂ -CH=CH ₂
C	O	H	-CH ₂ -CH=CH ₂
D	O	H	-CH=CH-CH ₃

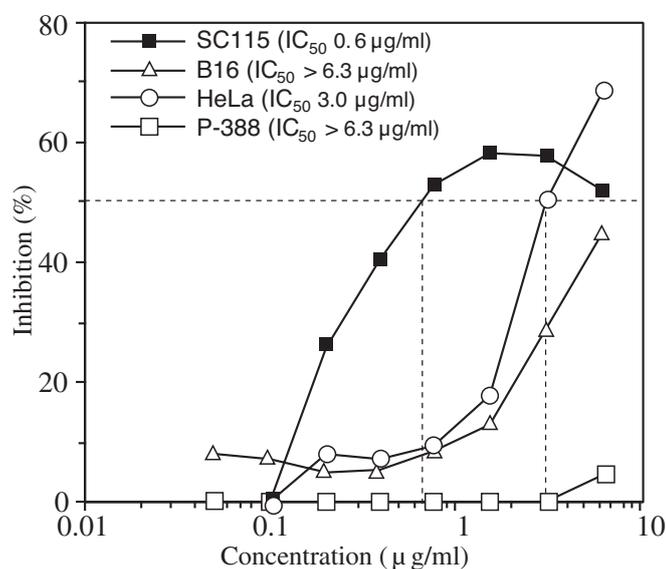
2. Physical data (Louisianin A)²⁾

Colorless needles. C₁₁H₁₁NO₂; mol wt 189.07. Sol. in MeOH, CHCl₃. Insol. in H₂O.

3. Biological activity¹⁾

1) Inhibitory activity of louisianin A on growth of several cell lines

Louisianin A significantly inhibited growth of SC-115 cells (IC₅₀ 0.6 μg/ml), whereas growth of HeLa cells, B16 melanoma cells and L929 cells was not affected at this concentration. This compound did not inhibit activity of testosterone 5α-reductase derived from rat prostate. As growth of SC-115 cells was thought to be stimulated only by androgens *in vivo* in the cell culture, it will be interesting to study the action mechanism of louisianin on the SC-115 cells.



2) Louisianins showed no antimicrobial activity against Gram-positive and Gram-negative bacteria, fungi and yeast at a concentration of 1 mg/ml¹⁾.

4. References

1. [590] K. Komiyama *et al.*, *J. Antibiot.* **48**, 1086-1089 (1995)
2. [591] S. Takamatsu *et al.*, *J. Antibiot.* **48**, 1090-1094 (1995)
3. C. -Y. Chang *et al.*, *J. Org. Chem.* **71**, 6302-6330 (2006)
4. T. Ross *et al.*, *J. Org. Chem.* **68**, 49707-4972 (2003)