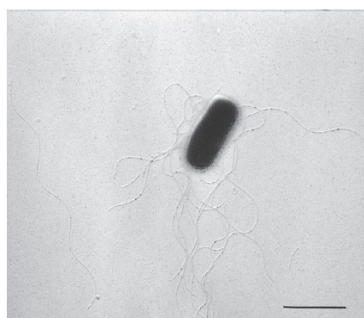


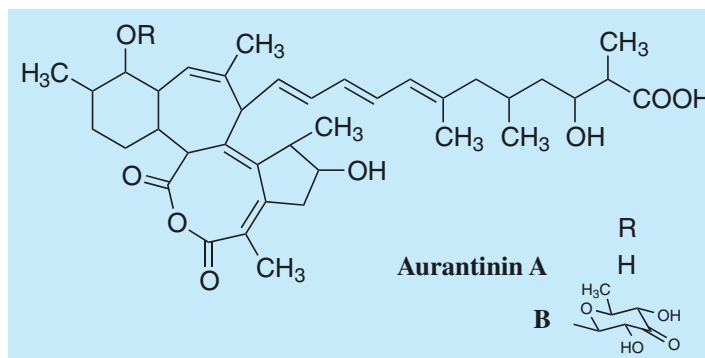
Aurantinin

1. Discovery, producing organism¹⁻³⁾ and structures⁴⁾

During screening for biologically active compounds from eubacteria, the novel antibiotics, aurantinin, were isolated from the fermentation broth of *Bacillus aurantinus* strain KM-214. The complicated polyketide skeleton was successfully elucidated from feeding experiments using ¹³C-enriched compounds and NMR spectral analysis.



Bacillus aurantinus KM-214

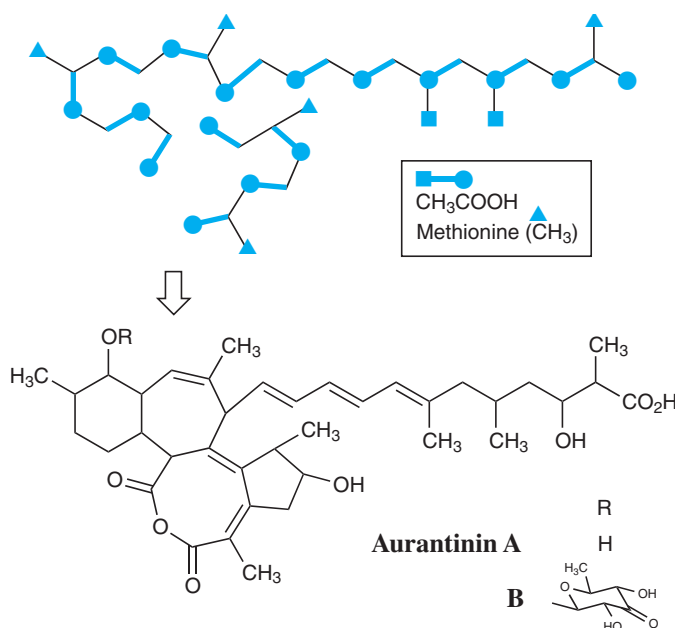


2. Physical data (Aurantinin A)

Yellow powder. C₃₅H₅₄O₉; mol wt 636.37. Sol. in EtOH, MeOH, EtOAc, acetone. Insol. in petroleum ether, hexane, H₂O.

3. Biological activity^{2,3)}

Aurantinins exhibit potent antimicrobial activity against Gram-positive bacteria including anaerobic bacteria, but are inactive against Gram-negative bacteria, filamentous fungi and yeast. Aurantinin B is a more potent antimicrobial agent than aurantinin A.



4. Biosynthesis^{4,5)}

Study of aurantinin biosynthesis led to the following conclusions:

- 1) the propionate pathway in this eubacterium does not function,
- 2) the C1 unit located in the primer acetate unit of the polyketide chain is derived from the methyl group of an acetate unit,
- 3) the C1 unit located in the tail of an acetate unit is derived from methionine and not from propionate.

5. References

1. [108] S. Ōmura *et al.*, *J. Antibiot.* **29**, 477-478 (1976)
2. [143] T. Nishikiori *et al.*, *J. Antibiot.* **31**, 525-532 (1978)
3. [385] Y. Konda *et al.*, *J. Antibiot.* **41**, 268-270 (1988)
4. [395] A. Nakagawa *et al.*, *J. Org. Chem.* **53**, 2660-2661 (1988)
5. [622] A. Nakagawa & S. Ōmura, *J. Antibiot.* **49**, 717-741 (1996)