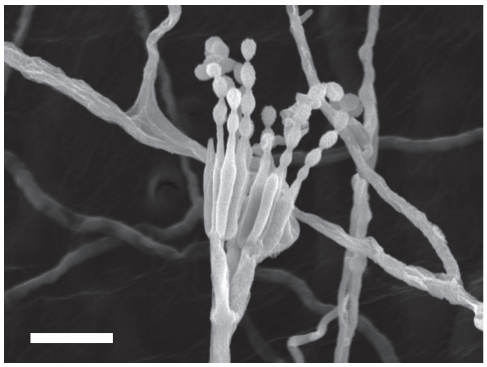
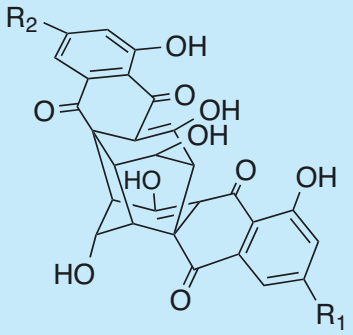
# Rugulosin

## 1. Discovery, producing organism and structure[1)]

Rugulosins B and C were isolated from a culture broth of *Penicillium radicum* (current name: *Talaromyces radicus*) FKI-3765-2 and proved to be anti-MRSA agents. FKI-3765-2 is also a producer of xanthoradones. Rugulosins B and C are analogs of rugulosin A (renamed from rugulosin) having anthraquinone dimers.



*Penicillium radicum* FKI-3765-2
(*Talaromyces radicus* FKI-3765-2)
Bar: 10 μm




| | $R_1$ | $R_2$ |
|---|---|---|
| **Rugulosin A** | $-CH_3$ | $-CH_3$ |
| **Rugulosin B** | $-CH_3$ | $-CH_2OH$ |
| **Rugulosin C** | $-CH_2OH$ | $-CH_2OH$ |

## 2. Physical data (Rugulosin B)

Yellow crystal. $C_{30}H_{22}O_{11}$; mol wt 558.49. Sol. in DMSO.

## 3. Biological activity[1)]

1) Anti-MRSA activity

Rugulosin A showed potent anti-MRSA activity with a MIC value of 0.125 μg/mL, while rugulosins B and C showed weak activity with MIC values of 32 and 64 μg/mL, respectively.

2) Cytotoxicity

No cytotoxicity against Jurkat cells were observed even at 60-100 μg/mL of rugulosins.

## 4. References

1. [1082] H. Yamazaki *et al*., *Org*. *Lett*. **12**, 1572-1575 (2010)