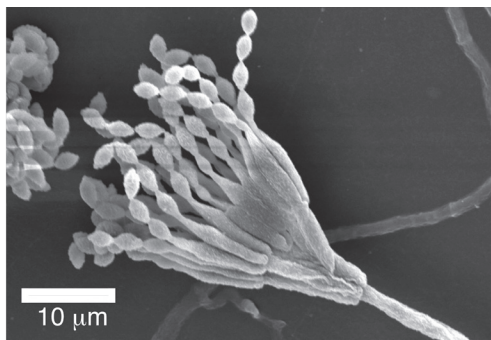


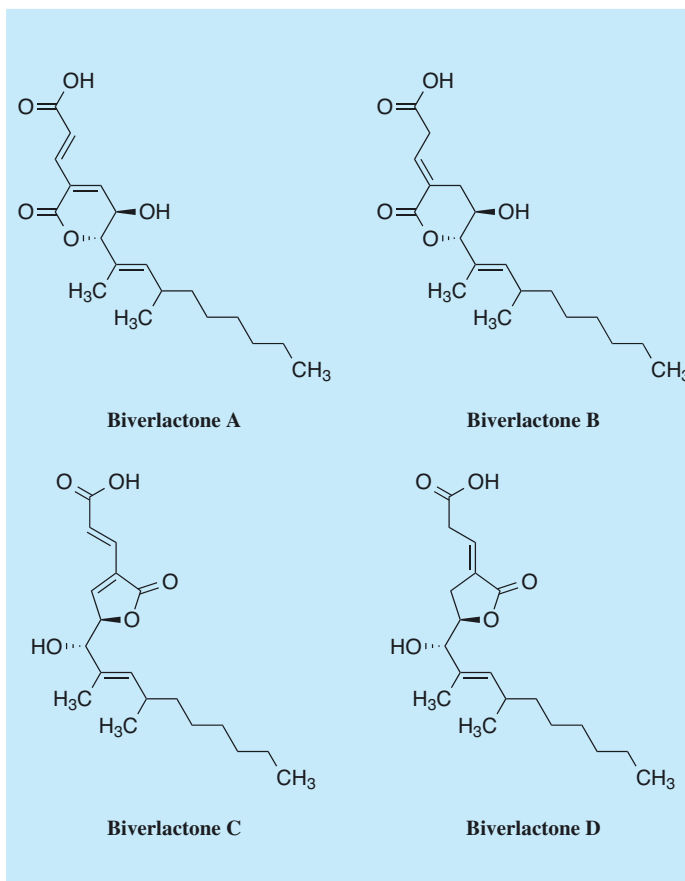
# Biverlactone

## 1. Discovery, producing organism and structure<sup>1)</sup>

Biverlactones A-D were discovered in a culture broth of *Penicillium* sp. FKI-4429 and shown to be circumventors of arbekacin resistance in MRSA. They have novel skeletons, each containing a lactone ring conjugated with *exo*- or *endo*-olefin, a carboxylic group and a characteristic alkyl side chain.



*Penicillium* sp. FKI-4429



## 2. Physical data (Biverlactone A)

White powder. C<sub>19</sub>H<sub>28</sub>O<sub>5</sub>; mol wt 336.19.

Sol. in MeOH, EtOAc, CHCl<sub>3</sub>

Insol. in H<sub>2</sub>O, *n*-hexane.

## 3. Biological activity<sup>1)</sup>

1) Circumvention activity of arbekacin resistance in MRSA

The biverlactones only showed an effect on arbekacin-resistant MRSA in the agar diffusion method when the media contained arbekacin. Among them, biverlactone A displayed the most potent circumvention activity.

Compound	Amount μg/disc	Inhibition zone (mm)	
		Arbekacin (-)	Arbekacin (+)
Biverlactone A	0.3	–	12.2
Biverlactone B	30	–	12.5
Biverlactone C	3	–	13.3
Biverlactone D	30	–	12.6

## 4. References

1. [1108] M. Iwatsuki *et al.*, *Tetrahedron* **67**, 6644-6648 (2011)