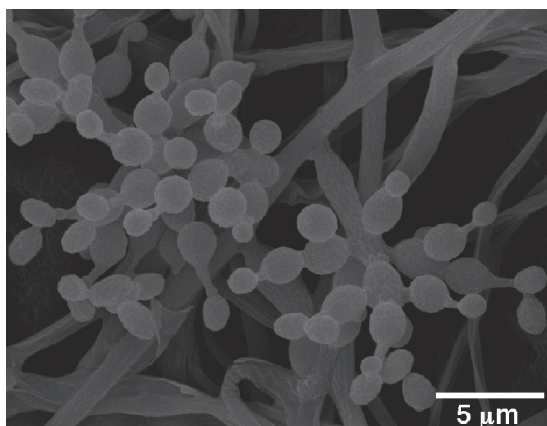


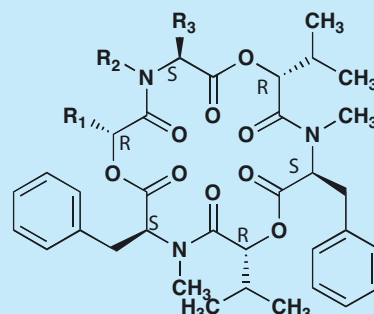
# Beauvericin

## 1. Discovery, producing organism and structures<sup>1,2)</sup>

Beauvericins were found from the culture broth of the fungal strain *Beauveria* sp. FKI-1366 as potentiators of antifungal miconazole activity.



*Beauveria* sp. FKI-1366



Compound	R <sub>1</sub>	R <sub>2</sub>	R <sub>3</sub>
Beauvericin D	CH(CH <sub>3</sub> ) <sub>2</sub>	H	CH <sub>2</sub> C <sub>6</sub> H <sub>5</sub>
Beauvericin E	CH(CH <sub>3</sub> ) <sub>2</sub>	H	CH <sub>2</sub> CH(CH <sub>3</sub> ) <sub>2</sub>
Beauvericin F	CH <sub>2</sub> CH(CH <sub>3</sub> ) <sub>2</sub>	CH <sub>3</sub>	CH <sub>2</sub> C <sub>6</sub> H <sub>5</sub>
Beauvericin <sup>3)</sup>	CH(CH <sub>3</sub> ) <sub>2</sub>	CH <sub>3</sub>	CH <sub>2</sub> C <sub>6</sub> H <sub>5</sub>
Beauvericin A <sup>4)</sup>	CH(CH <sub>3</sub> )CH <sub>2</sub> CH <sub>3</sub>	CH <sub>3</sub>	CH <sub>2</sub> C <sub>6</sub> H <sub>5</sub>

## 2. Physical data (Beauvericin D)

White powder. C<sub>44</sub>H<sub>55</sub>N<sub>3</sub>O<sub>9</sub>; mol wt 769.92. Sol. in DMSO, MeOH, CHCl<sub>3</sub>. Insol. in H<sub>2</sub>O, hexane.

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

Potiation of antifungal miconazole activity

Effect of beauvericins on miconazole activity against fluconazole resistant *Candida albicans* was investigated by the broth microdilution test. From comparison of the IC<sub>50</sub> values of miconazole activity, beauvericins potentiated miconazole activity by 1.1 ~ 6.8 fold. Among them, beauvericin A is the most potent, followed by beauvericins D and E.

Addition	IC <sub>50</sub> of miconazole (μM)	Ratio (control /+ drug)
No (control)	1.3	1
+ Beauvericin D	0.25	5.2
+ Beauvericin E	0.31	4.2
+ Beauvericin F	1.2	1.1
+ Beauvericin	0.48	2.7
+ Beauvericin A	0.19	6.8

## 4. References

- [851] T. Fukuda *et al.*, *J. Antibiot.* **57**, 110-116 (2004)
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- A. Logrieco *et al.*, *J. Appl. Environ. Microbiol.* 3084-3088 (1998)
- C. Nilanonta *et al.*, *Tetrahedron* **58**, 3355-3360 (2002)